

# Sargon 4

## MACINTOSH ADDENDUM

Please note that an additional mode of play (NOVICE mode) has been added to the LEVEL menu. This mode is an easier set of parameters for players new to the game of chess. NOVICE mode is equivalent to having Easy Play on, the Opening Library cancelled, and a Fixed Depth set to 3 plies. This forces SARGON to think only on his turn, never to look in the book, and to only search a minimum depth for his next move.



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# SARGON IV COMPUTER CHESS

by  
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# INTRODUCTION

## ORGANIZATION OF THE USER'S GUIDE

The primary purpose of this user's guide is to instruct you in the operation of the SARGON IV chess program on the Macintosh computer. Additionally, this guide contains chapters designed to increase your enjoyment of both chess and computer chess, extending beyond the basics of the program's operation.

The following is an outline of the information contained in this user's guide.

### **Section 1 — Playing Chess**

This section provides the new owner with the minimum information needed to get the program running and playing chess. It includes instructions from the U.S. Chess Federation on the basic rules of chess designed to help the beginner get started. It also contains cross-references to information on some of the most commonly used optional features.

### **Section 2 — Special Features**

This section presents all of the special features that are available in the SARGON IV chess program on the Macintosh.

### **Section 3 — Great Games**

Your SARGON IV chess program comes with a selection of 107 historical chess games, which were played by the greatest players of all time. Each game can be called up from disk and reviewed at your leisure. In this section, Life Master Boris Baczyński briefly describes each game, noting his reasons for including it in this anthology.

### **Section 4 — Chess Problems**

Written for the newcomer to chess by Boris Baczyński, this section provides an introduction to the strategy and tactics of chess. A series of chess problems is provided for your enjoyment. Like the Great Games, the Chess Problems can be called up from the disk and solved at your own pace. These problems range in difficulty from very simple to quite challenging, but each individual problem teaches a single chess concept.

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## DESIGN PHILOSOPHY

The design of the feature package for the SARGON IV chess program was based upon the assumption that you should be able to access any feature easily, but you should not have to concern yourself with features that are not of interest to you. On the Macintosh, all features are available on pull-down menus and can be activated by simply moving and clicking your mouse.

Upon loading, SARGON IV is ready to play a game of chess. The level is automatically set to SARGON IV's fastest response time (about five seconds per move), and SARGON IV assumes that you want to play with the White pieces. At this point, all you need to know to begin a game of chess with SARGON IV is how to enter your moves (see Section 1 — Playing Chess).

Later on, you will want to learn about all of the innovative features which the SARGON IV program has to offer. This guide need not be read from cover to cover, but rather can be sampled gradually as you expand your repertoire of features.

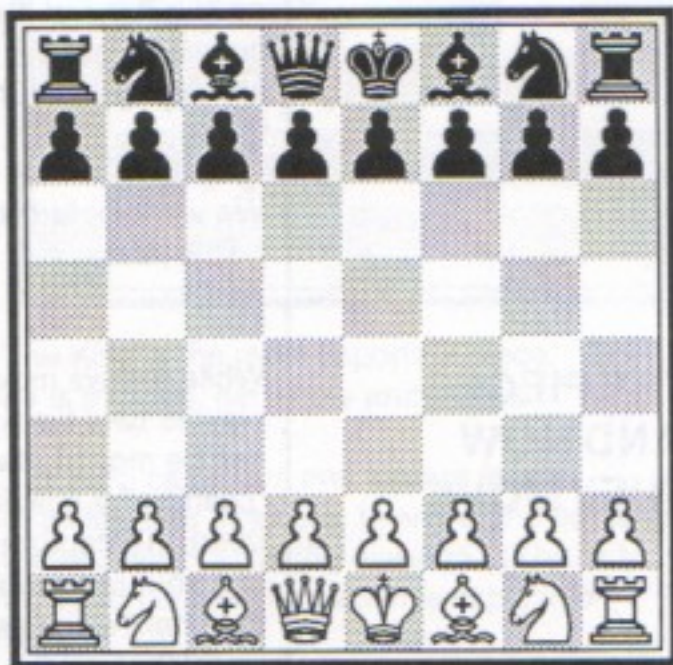
# SECTION 1

## PLAYING CHESS

### LET'S PLAY CHESS

Summary of the Official Rules of Chess is reprinted by permission of the U.S. Chess Federation. ©1978, 1983 U.S. Chess Federation.

Chess is a game for two players, one with the "White" pieces and one with the "Black"—no matter what colors your set actually uses. At the beginning of the game, the pieces are set up as pictured below.



## THE PIECES AND HOW THEY MOVE

A couple of hints will help you remember this setup:

1. Opposing Kings and Queens go directly opposite each other.
2. The square in the lower right corner is a "White" one ("White on right").
3. The White Queen goes on a light square, the Black Queen on a dark square ("Queen on color").

The main goal of chess is to checkmate your opponent's King. The King is not actually captured and removed from the board like other pieces. But if the King is attacked ("checked") and threatened with capture, he must get out of check immediately. If there is no way to get out of check the position is a checkmate, and the side that is checkmated loses.

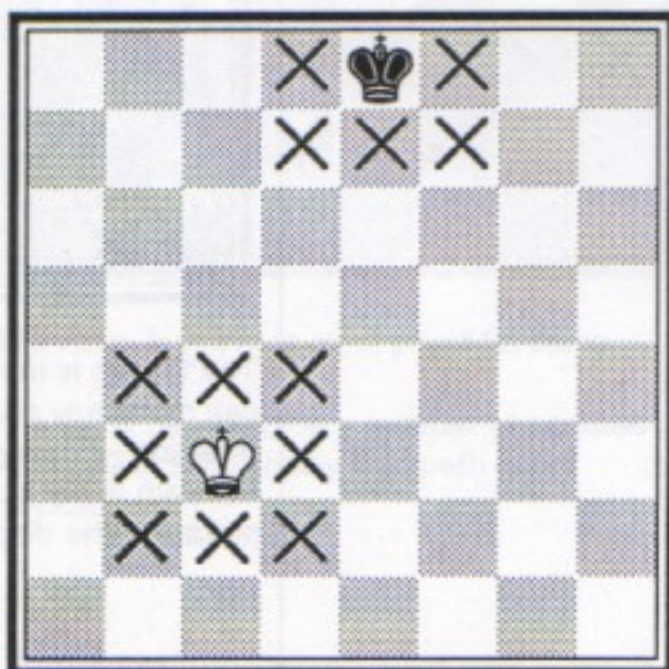
We will look further at pieces and checkmates a little later.

White always moves first, and then the players take turns moving. Only one piece can be moved at each turn (except for "castling," a special move that is explained later). To capture or "take," move your piece to a square occupied by one of your opponent's pieces. The opponent's piece is then taken off the board, and your piece is left on that square.

## THE KING

You don't have to make a possible capture unless it is the only legal move available.

You cannot move a piece to a square already occupied by one of your own pieces. Except for Knights, pieces can move only along unblocked paths. Of course, they can capture or "take" the blocking piece if it is the opponent's.

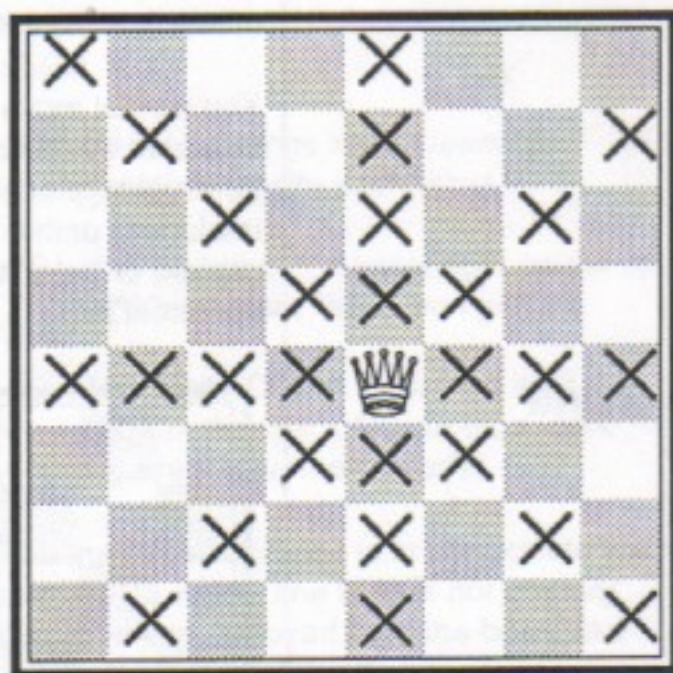


The King is the most important piece. When he is trapped, his whole army loses.

The King can move one square in any direction—for example, to any of the squares marked with "X" in the diagram. (The only exception is castling, which is explained later.)

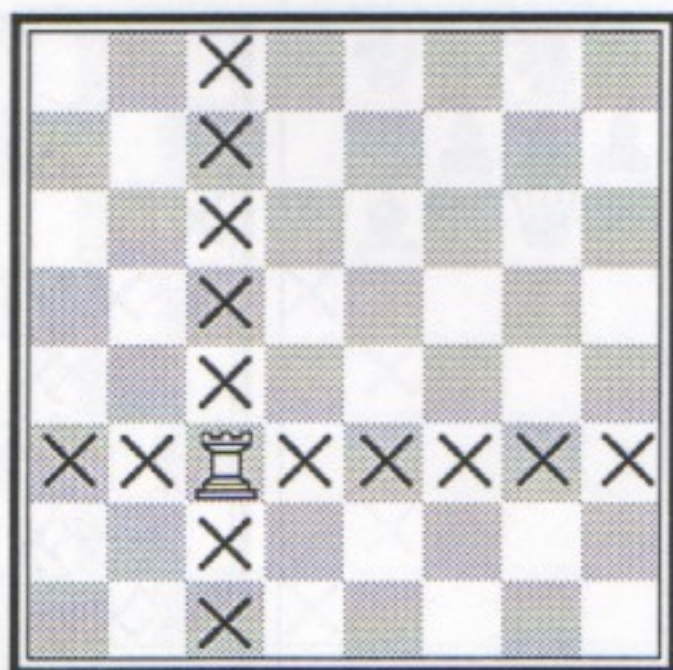
The King can never move into check—that is, into the line of fire of an opponent's piece.

## THE QUEEN



The Queen is the most powerful piece. She can move any number of squares in any direction—horizontal, vertical, or diagonal—if her path is not blocked. She can reach any square in the diagram marked "X."

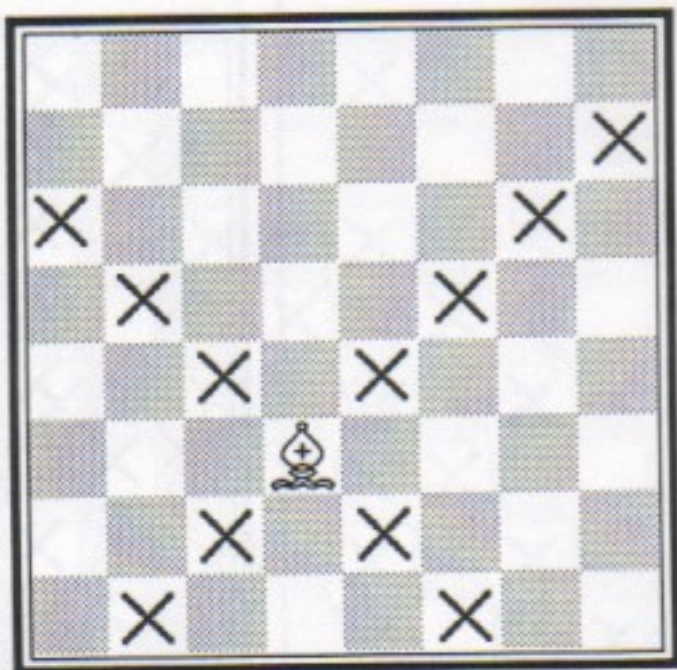
## THE ROOK



The Rook is the next most powerful piece.

The Rook can move any number of squares vertically or horizontally if its path is not blocked.

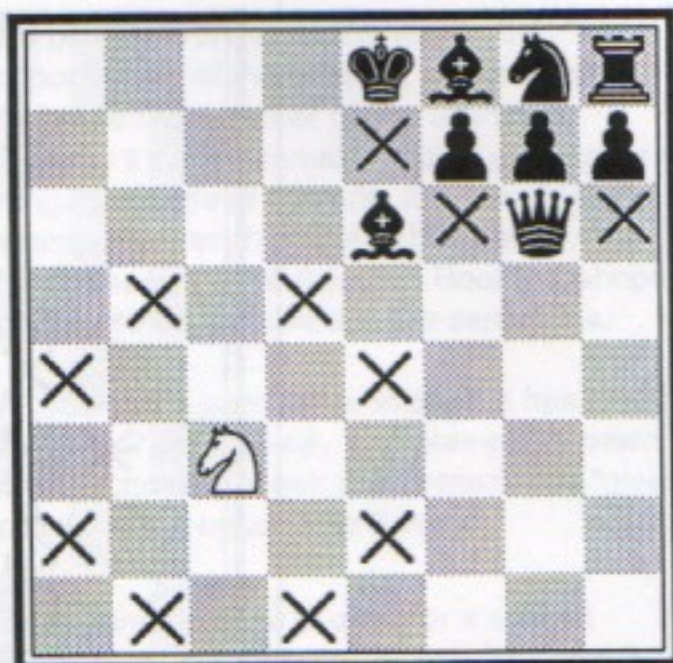
## THE BISHOP



The Bishop can move any number of squares diagonally if its path is not blocked.

Note that this Bishop starts on a White square and can reach only other White squares. At the beginning of the game, you have one "dark-square" Bishop and one "light-square" Bishop.

## THE KNIGHT

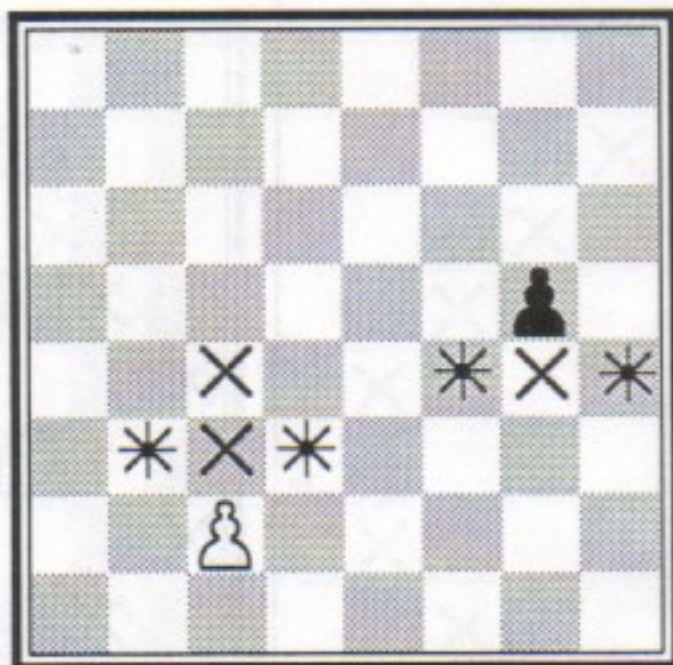


The Knight's move is special. It hops directly from its old square to its new square. The Knight cannot be blocked by other pieces between its old and new squares.

You can think of the Knight's move as an "L." It moves two squares horizontally or vertically and then makes a right-angle turn for one more square. The Knight always lands on a square opposite in color from the square it "hops" from.

Any pieces "hopped over" are not captured by the Knight's move. The Knight can capture only when "landing" on the enemy piece.

## THE PAWN



The pawn moves straight ahead (never backward), but it captures or "takes" diagonally. It moves one square at a time, but on its first move it has the option of moving forward either one or two squares. (Historically, this option was introduced to speed up the game a little.)

In the diagram above, the squares marked with an "X" indicate possible destinations for the pawns. The White pawn is on its original square, so it can move ahead either one or two squares. The Black pawn has already moved, so it can move ahead only one square now.

The squares on which these pawns can capture are indicated by the symbol \*

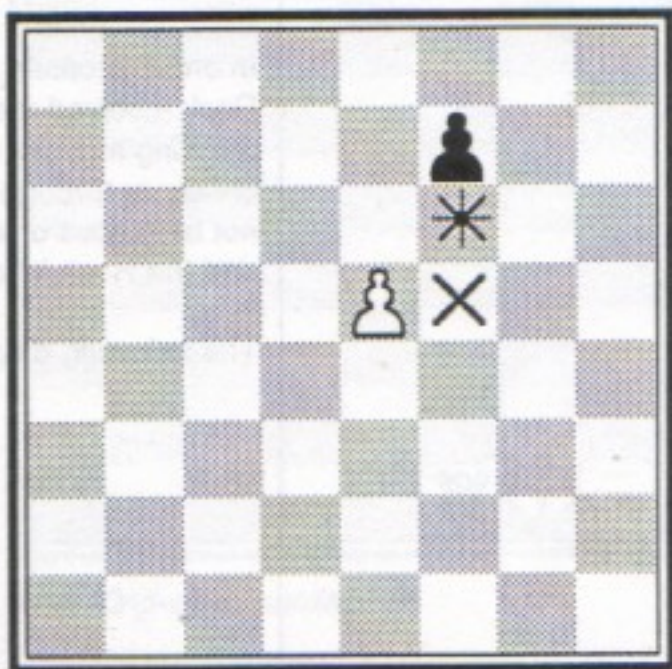
## SPECIAL MOVES

### ENPASSANT

If a pawn advances all the way to the opposite end of the board, it is immediately "promoted" to another piece, usually a Queen. It cannot remain a pawn or become a King. Because of this rule, it is possible, for example, for each player to have more than one Queen or more than two Rooks, Bishops, or Knights on the board at the same time.

As soon as a pawn is "promoted" it has all the powers of its new self. For example, a pawn may become a Queen that immediately "gives check" to the opponent's King.

This French phrase is used for a special pawn capture. It means "in passing," and it occurs when one player moves a pawn two squares forward to try to avoid capture by the opponent's pawn. The capture is made exactly as if the player had moved the pawn only one square forward.

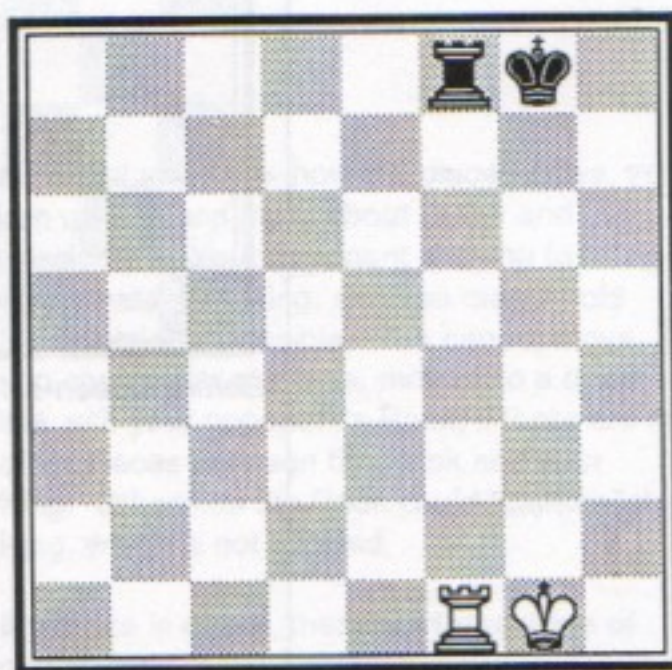


In order to castle, the Rook involved must not be under attack. The King may not be in check, or through the check, not be pieces of the same color, and the Rook involved must not be under attack.

The following diagram illustrates the rules for castling:



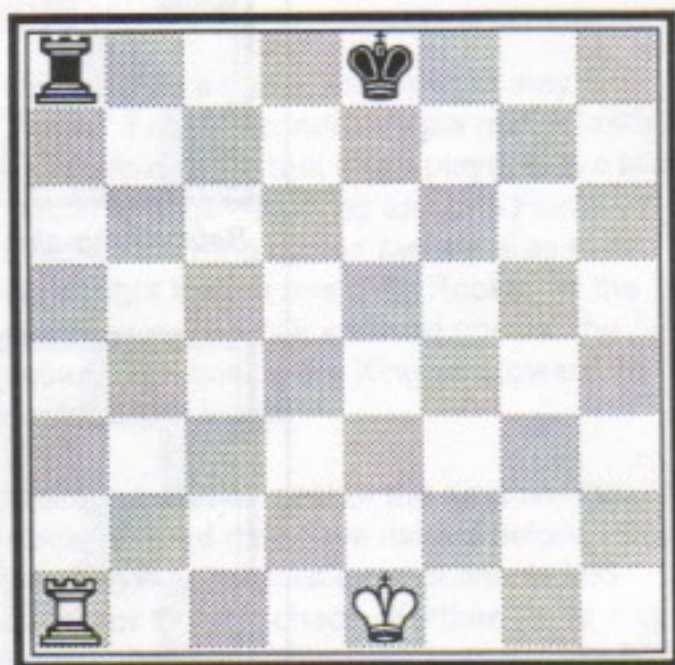
*Before King-side Castling.*



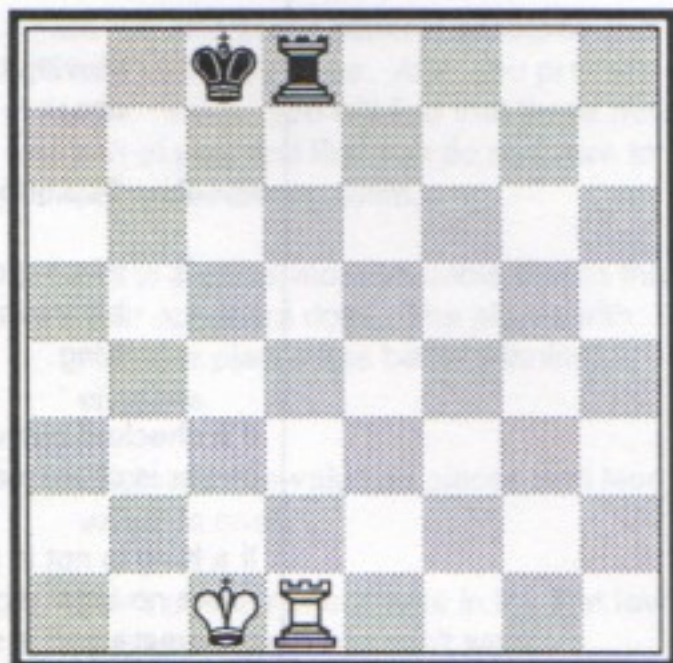
*After King-side Castling.*

Castling is often a very important move because it allows you to place your King in a safe location, and it also allows the Rook to become more active.

When the move is legal, each player has the choice of castling King-side or Queen-side or not at all, no matter what the other player chooses.



*Before Queen-side Castling.*



*After Queen-side Castling.*

## **MORE ABOUT CHECK AND CHECKMATE**

Now that you know how the pieces move, you can understand more about check and checkmate. Your opponent is trying to checkmate your King, and you must avoid this situation if possible. You cannot move into check—for example, move into a direct line with your opponent's Rook, if there are no other pieces between the Rook and your King. Otherwise the Rook could "capture" the King, which is not allowed.

If you are in check, there are three ways of getting out:



## SOME HINTS TO GET YOU STARTED

1. Moving the King away from the attack.
2. Capturing the attacking piece.
3. Placing one of your own pieces between the attacker and your King.

If a checked player can do none of these, the player is checkmated and loses the game.

If a King is not in check, but that player can make no legal move, the position is called a stalemate and is scored as a draw or tie.

Some pieces are more valuable than others, because they are able to control more squares on the board. Obviously, for example, a Queen is more valuable than a pawn.

The question of value is important every time there is a possibility of capturing or exchanging pieces. Following is a guide to the value of pieces other than the King:

• Pawn	1 point
• Knight	3 points
• Bishop	3 points
• Rook	5 points
• Queen	9 points

---

There are also some general principles that will help you win games. After you practice for a few games, you will find that these hints are part of you, and that you do not have to work at remembering them.

- Try to capture more valuable pieces than your opponent does. The player with stronger pieces has better winning chances.
- Capture more valuable pieces with less valuable ones.
- Don't try for a checkmate in the first few moves—it probably won't work.
- Control the center. Move your center pawns early, but not the pawns on the side.
- Move your Knights and Bishops early.
- Castle early.
- Pieces in the center have more mobility than pieces on the sides. (Look back at the Knight diagram and see how the White Knight has more possible moves than the Black Knight.)
- Every time your opponent moves, stop and look carefully. Is one of your pieces under attack? Can you defend it or save it from capture? Did your opponent make a move that allows you to capture something?

## GETTING BETTER

- Your opponent has a plan, too!
- It usually takes more than one piece to checkmate.

These basic rules and pointers are enough to get you started in chess. Now you are ready to find partners among the millions of chess lovers across the country and around the world.

Practice will make you better and better at the game and so will reading some of the countless books about chess. You can probably find some of these books at your local library or bookstore. They will tell you lots about various winning strategies.

Another source for all your chess needs is the U.S. Chess Federation, a nonprofit educational and instructional corporation and the official organizing body for chess in this country. The U.S. Chess Federation publishes the monthly magazine *Chess Life*, containing news, instruction, and other articles about chess, including a monthly list of tournaments in which even beginners can play.

The U.S. Chess Federation also offers a national rating system, postal chess competitions, and a mail-order department with a large selection of chess books and equipment.

## CHESSNOTATION

The U.S. Chess Federation recognizes two forms of chess notation—algebraic and descriptive. Algebraic notation is named for its use of algebraic coordinates to name each square.

The horizontal rows of squares (known as ranks) are numbered 1 through 8 from White's side of the board. The vertical rows of squares (known as files) are lettered "a" through "h" from White's left to right. Each square is named by cross-referencing the number and the letter. Thus, the black square in White's lower left-hand corner is "a1." The black square in Black's lower left-hand corner is "h8."

To record a move in algebraic notation, all you need to know is the initial of the piece (except for pawns) and the square on which it lands. A variation of algebraic notation is often used by computers in which the piece itself is not named, but rather its initial location is given. Thus, moving the pawn in front of the King two squares forward, as a first move, would be written as 1.e4 in algebraic notation, but written as 1.e2-e4 in computer algebraic notation. As another example, moving the Queen from the c4 square to the e2 square on the sixth move would be written as 6.Qe2 in conventional algebraic, but as 6.c4-e2 in computer algebraic.

SARGON IV employs computer algebraic notation but records castling and en passant pawn captures in a more traditional format. King-side castling is recorded as "0-0," while

## **PLAYING CHESS WITH SARGON IV**

### **HARDWARE REQUIREMENTS**

### **GETTING STARTED**

Queen-side castling is recorded as "0-0-0." When a pawn is captured en passant, SARGON IV represents the move as "PxPep." Advancing a pawn to the eighth rank will have the notation "/Q" following it to show that the pawn has been promoted (to a Queen in this case).

The "to" and "from" squares of a move are usually separated by a hyphen. To indicate that a move places the other side in check, SARGON IV will display the word CHECK beneath the move which has placed the other side in check.

To play SARGON IV, you need a Macintosh system unit with built-in disk drive, keyboard, and mouse. The optional printer is useful if you wish to preserve printed copies of any of your games or any interesting board positions.

To load SARGON IV, simply turn on your Macintosh, wait until the Macintosh icon with the flashing "?" appears on the screen, then insert your SARGON IV disk into the drive slot. After loading, a highlighted SARGON icon will appear in the upper right-hand corner of the screen. Pull down the **File** menu and click **Open**.

The screen will display the contents of the SARGON IV disk in a window.

Move the cursor to the SARGON IV icon,

click to highlight the icon, and pull down the **File menu** again and click **Open**. The screen will fill with the SARGON IV chess board and game list.

At this point, the three-dimensional playing board is will appear, and SARGON IV is ready to play a game of chess. It is automatically set on its lowest playing level (the five second level), and it assumes that you are going to play White. (To change the playing level or color, see Section 2 — Special Features.) Since White always makes the first move, at this point SARGON IV is waiting for you to make your move.

Moves are made by highlighting the piece you wish to move, dragging it to its new square, and releasing it there. For example, to move the King's pawn forward two squares, move the cursor to the King's pawn's square and hold down the mouse button. Drag the cursor to the e4 square and release. The picture of the King's pawn will move forward two squares, and the game list will display the move 1.e2-e4. After a brief period of time, SARGON IV will select its response from among the openings in its opening library (see the discussion of this opening library in Section 2). SARGON IV's selections will vary at random, so that it will not always play the same opening variation.

To continue playing the game, simply make your move each time it is your turn to play. At some point, SARGON IV will exhaust its

opening library in the variation you are playing; the program will then begin thinking for itself. At the level currently in effect, SARGON IV will take an average of about five seconds per move. SARGON IV works on a time budget. The time SARGON IV may save by playing many moves from its opening book can be used as bonus time in future moves.

SARGON IV will not permit you to make an illegal move. If you try to make an illegal move, SARGON IV will automatically restore the original position after you release the mouse button.

## NEW GAME

### File

New  
Open...  
Open Set...  
Save  
Save as...  
Page Setup  
Print Move List  
Quit

In order to terminate the current game and begin a new one, pull down the **File menu** and click **New**. You will be prompted to save the current game, as an option, before you begin a new one. The board will be restored to its original position, and the game list window will be cleared. You are now ready to begin a new game.

## EXITING THE PROGRAM

To get out of the chess program completely, perform the following steps:

- Pull down the **File menu** and click **Quit**.
- When the SARGON IV window appears, move the cursor to the

## OTHER FEATURES

close box (left-hand corner of the title space) and click.

- Pull down the **File menu** and click **Eject**.

Your Macintosh is now ready for you to insert another application disk.

SARGON IV has quite an exciting array of special features that may interest you. Some of the features you might want to learn about first include:

- Level Select
- Changing Sides with SARGON IV
- Inverting the Board Display  
(Black on the Bottom)
- Taking Back Moves

Section 2 — Special Features contains a detailed explanation of each of these options.

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## SECTION 2

# SPECIAL FEATURES

The features included in your SARGON IV chess program have been designed to increase your enjoyment of the game. They are easy to use and clearly organized, so that any feature can be easily accessed without complicated references to other feature selections.

Except for adjusting the size and location of the game board and game list windows, all features are controlled by one of the eight menus listed at the top of the SARGON IV screen. The features in this section are arranged by the menu item that controls them, beginning with the menu item at the far left of the screen, and proceeding to the menu item at the far right of the screen.

A feature is activated by selecting the desired menu item, dragging the cursor down to the desired feature, and releasing the mouse button.

### APPLE MENU



Scrapbook  
Alarm Clock  
Note Pad  
Calculator  
Key Caps  
Control Panel  
Puzzle

The desk accessories shown on the **Apple** menu are all available under SARGON IV. See the section on "Desk Accessories" in the Macintosh manual (Chapter 4) for a complete explanation of the operation of these desk accessories.

## FILE MENU

### NEW

#### File

New  
Open...  
Open Set...  
Save  
Save as...  
Page Setup  
Print Move List  
Quit

Clicking **New** triggers a dialog box that asks if you want to save the game in progress to the disk. The original board position is then restored, and the game list is cleared. The options you selected last

remain in effect (see the **Options menu**).

### OPEN...

SARGON IV has the ability to save games in progress on disk, and to replay them later. A game to be replayed must first be loaded into SARGON IV's memory. Clicking **Open** allows you to do this.

After you click **Open**, a dialog box will appear that reveals the names of the games you have saved. Select the game you wish to recall, click the **Open** prompt, and your game is read from the disk and loaded into SARGON IV's memory for replay (see the **Options menu, Replay**).

### OPEN SET...

SARGON IV has several sets of three-dimensional chess pieces from which you may choose. In addition, you may use the **Piece Sculptor** to create your own chess sets (see Appendix).

To change to a different three-dimensional chess set, you must first load the desired set

of pieces into SARGON IV's memory. You can accomplish this by clicking **Open Set**.

Selecting **Open Set** will cause SARGON IV to display a dialog box listing the names of the 3D Chess Sets which are available. Select the set you wish to use, click **Open**, and your set will be read from the disk and loaded into SARGON IV's memory for use.

## SAVE

Clicking **Save** enables you to save the current game on the SARGON IV disk, exactly as the Great Games are saved (see Section 3). If the current game is untitled, SARGON IV displays a dialog box, which prompts you for the game name. The game is saved on disk under this name; it can later be recalled by clicking **Open**.

## SAVEAS...

Clicking **Save as** tells SARGON IV that you want to specify a game name. SARGON IV displays a dialog box, which prompts you for the game name.

## PAGESETUP

**Page Setup** enables you to select your page format for printing.

## PRINT MOVE LIST

In order to print SARGON IV's move list, set up your printer and click on the **Print Move List** option.

## QUIT

Clicking **Quit** cancels the game in progress, provides you with the option to save the game, closes the SARGON IV module, and returns control to the SARGON IV disk window. You can then restart SARGON IV or close the window and eject the SARGON IV disk, as described in Section 1.

## EDIT MENU

### UNDO

#### Edit

Undo	⌘ Z
Cut	⌘ X
Copy	⌘ C
Paste	⌘ V
Copy Move List	

The function of **Undo** depends on the action just completed. If you select **Undo** after entering your move, it unplays the move and restores the board and game list. You can

**Undo** commands to **Change Sides**, **Take Back**, and **Cancel Opening Library**.

### CUT AND COPY

**Cut** and **Copy** are not operative functions within SARGON IV. They are included for use with the Macintosh Desk Accessories.

### PASTE

**Paste** can be used after a **Copy Move List** command to **Paste** a move list onto the Scrapbook, which provides a pathway into MacWrite® or MacPaint®.

### COPY MOVE LIST

**Copy Move List** prepares the move list to be copied.

## LEVEL MENU

### Level

#### Easy Play Countdown

5 Seconds  
15 Seconds  
30 Seconds  
1 Minute  
2 Minutes  
3 Minutes  
6 Minutes  
10 Minutes

Infinite  
Fixed Depth...  
Mate Finder...

SARGON IV has numerous levels of play available to choose from.

These playing levels are divided into five general categories, each of which has a uniquely different function:

- (a) *Time-Based Levels* allow you to control the approximate time SARGON IV will take for each move.
- (b) *Countdown Levels* allow you to control the time each side has to make all the moves of a game.
- (c) *Fixed Depth Levels* are designed for the novice player, allowing you to control how deep SARGON IV will search on its move (ideal for beginners!).
- (d) *Mate Finder Levels* enable you to set up mating problems and have SARGON IV solve them for you.
- (e) the *Infinite Level* lets SARGON IV search indefinitely.

Each of the level categories is described in depth below.

## TIME-BASED LEVELS

SARGON IV has nine different time-based levels of play. These levels increase in difficulty and in the amount of time taken per move. Levels can be selected or changed at any time during the game, as long as it is your turn to move. To select a **Time-Based Level**, simply drag the cursor to the desired level number and click.

The time-based levels and their average response times are summarized below:

Average Response Time (per move)	Actual Time Controls
5 seconds	60 moves/5 minutes
15 seconds	60 moves/15 minutes
30 seconds	60 moves/30 minutes
1 minute	60 moves/1 hour
2 minutes	30 moves/55 minutes
3 minutes	40 moves/1 hr 50 min
6 minutes	30 moves/3 hours
10 minutes	40 moves/6 hrs 40 min
Infinite	No limit

SARGON IV maintains a time "budget." For each level, there are a certain number of moves which must be made within a fixed time frame. If SARGON IV exceeds the

average time on any particular move, that time is subtracted from its budget. The remaining moves will be played more quickly. If SARGON IV gains time by playing moves from its opening library or by thinking on your time, the time saved is distributed over the remaining moves. SARGON IV can then take a little longer on these moves.

## COUNTDOWN LEVELS

Countdown Levels allow you to control the time each side has to make all the moves of a game. When you select **Countdown Levels**, the times in the **Level menu** change. SARGON IV has eight different countdown levels of play. Game times range from five minutes to three hours. Each player must make all moves of the game within this total time limit. The levels increase in difficulty and in the amount of time taken per move. Levels can be selected or changed at any time during the game, as long as it is your turn to move. To select a level, simply drag the cursor to the desired level number and click. When playing with a Countdown Level, SARGON's chess clock will show the total time remaining for each side.

## FIXED DEPTH LEVELS

The Fixed Depth Levels included in SARGON IV will be of special interest to beginners and those who are looking for an easier and more manageable game of chess. These levels enable you to limit SARGON IV to a one or two-ply search on each move.

In order to understand why these levels are markedly easier, consider the following: *The deeper SARGON IV searches, the better it plays; therefore, it stands to reason that the shallower it searches, the weaker it will play.*

## SARGON IV

These Fixed Depth Levels, then, will artificially "weaken" SARGON IV's playing strength by allowing you to limit the depth of its search to one or two ply.

When you select **Fixed Depth Levels**, a dialog box will ask you to type in the desired level. The following will help you to further understand what the ply numbers mean:

When deciding on a move to play, SARGON IV will first examine *all move choices available to it*: this is called ply 1. Next, it will look at *every response you can make to each of its moves*: this is known as ply 2. After that, it looks at *every response it can make to each of your responses*: this makes up ply 3. The search continues in this fashion, with SARGON IV looking at an ever wider and deeper set of choices. This is called a full-width search. The depth you set is the number of ply (half-moves) SARGON IV's full-width search will go. At the end of every search, SARGON IV needs to evaluate how the position stands for itself. In order to judge capture possibilities correctly, SARGON IV tries them all. This is called a capture search. A capture search is always added to the bottom of a full width search.

## MATE FINDER LEVELS

Mate Finder Levels allow you to set up mating problems and have SARGON solve them for you (see **Change Board** for an explanation of how to set up a problem in SARGON IV). When you select **Mate Finder Levels**, a dialog box appears asking you to type in the number of moves required to deliver mate. When you change sides with SARGON IV to

## INFINITE LEVEL

ask it to choose its move, it will search until it either finds a mate or until it determines that no mate is possible in that number of moves.

The Infinite Level is unlike any of the other levels. When you select the **Infinite Level**, SARGON IV is given no time limit whatsoever for its moves. It will continue to think indefinitely, unless one of the following conditions occurs:

1. The position is contained in SARGON IV's opening library.
2. The move is forced (i.e., it is the only legal move in that position).
3. SARGON IV sees a forced mate against itself or its opponent.
4. SARGON IV's search is terminated (see the **Features** menu, **Halt Search**).

## EASY PLAY

Clicking **Easy Play** with any level will weaken SARGON IV's play at that level. Using **Easy Play** effectively doubles the number of skill levels available to you.

Normally, SARGON IV uses the time you take to decide on a move to think about its own next move. Thus, if you have selected five seconds per move, but you take two minutes to decide on your next move, SARGON IV has used your two minutes to consider its next reply. (You might as well have selected the two minute level!) When **Easy Play** is

## OPTIONS MENU

### NORMAL PLAY

### VERIFY MOVES

#### Options

Normal Play  
Verify Moves  
Self Play

Change Board...  
Replay...

Clicking **Normal Play** selects SARGON IV's default mode. SARGON IV responds to your moves at a playing strength represented by its current level setting.

Clicking **Verify Moves** enables SARGON IV to act as a "referee" between two human players. You are in complete control of the board and can make moves for both sides. SARGON IV checks each move for legality, rejects illegal moves, maintains a move list, and can save or print the game that has been played thus far. (See the **File menu** for these features.)

While in **Verify Moves** mode, SARGON IV can suggest moves for you to make from its opening library (see the **Features menu**, **Hint**). It can also take control and make a move for either side on command. If commanded to make the next move (select **Change Sides**), SARGON IV will use the current level selected for this move. Once SARGON IV has moved, you are back in control for both sides.

**Verify Moves** mode is especially handy for constructing an opening position you wish to play against SARGON IV. Simply click **Verify Moves**, play the selected sequence of moves, and click **Normal Play**. SARGON IV is now awaiting your next move in the constructed

position. In addition, SARGON IV will follow along in its opening library as you play the moves; thus, if the position is in the opening library, SARGON IV will be ready to play from the library.

## SELFPLAY

Selecting **Self Play** causes SARGON IV to play both sides of the chess game, at whatever level is currently in effect. A dialog box will appear with a prompt to direct SARGON IV to play new games continuously or stop at one game.

## CHANGEBOARD

Clicking **Change Board** allows you to construct a chess position from scratch. When **Change Board** is clicked, the game window is enlarged to include a menu of pieces and three control buttons. The game board shows the current position.

To modify the position you can drag the piece icons from one board square to another or from the piece menu to a board square. To remove a piece entirely, drag it off the board.

If you hold down the Option Key while you drag a piece from one square to another, it is left on the original square and a copy of it is made on the new square.

Click **OK** to resume play from this position. **Cancel** restores the board to what it looked like before entering **Change Board**. And **Clear** empties the board of all pieces.

**Change Board** will perform some error checking on the position before exiting. If you set up a position with two Queens, for

example, but you also include all eight pawns, SARGON IV will display a message saying the position is illegal because of excess pieces and will highlight one of the Queens or one of the pawns. Exactly which piece SARGON IV highlights depends upon the position. Pieces on their starting squares will always stay on the board, and other pieces are assigned from the center out. You should drag the highlighted pieces off the board, and then correct the position. You cannot begin using the new board until the correction is made.

If the position you set up is missing one or both Kings, SARGON IV will display a message telling you this, and will not let you use the new board until you supply the needed King(s).

SARGON IV always assumes that a King or Rook on its original square has never moved, and assigns castle status accordingly. When you exit **Change Board**, both the color to move and the level remain the same as they were when you entered this mode. If desired, the color to move can be changed by selecting **Change Color** from the **Features menu**.

## REPLAY

Clicking **Replay** lets you replay the game currently in memory. When Replay is clicked, a dialog box appears with four options:

- Clicking **Next** advances the game position one move. Use this to step through the moves of the game.
- Clicking **Finish** stops Replay mode

## FEATURES MENU

### CHANGESIDES

#### Features

Change Sides  
Halt Search  
Hint  
Take Back  
Draw Offer...  
Change Color...  
Cancel Opening Library  
Resign Enable

Clicking **Change Sides** allows you to play the Black pieces and SARGON IV to play the White pieces. If you click **Change**

**Sides** at the beginning of a new game, SARGON IV will make the first move as White, and you will play Black.

If you click **Change Sides** during a game, SARGON IV will take over control of your pieces, and you will play SARGON IV's pieces. You can change sides with SARGON IV at any point in the game, as long as it is your turn to move. You can also change sides as often as you wish. By clicking **Change Sides** after every move, you can watch SARGON IV play against itself.

### HALTSEARCH

Clicking **Halt Search** allows you to halt SARGON IV's search at any time while it is thinking about which move to make. SARGON IV will then play the best move it

and advances to the final game position.

- Clicking **Halt** stops Replay mode and allows you to continue the game from that position.
- Clicking **Automatic** causes the remaining moves to be displayed one after the other automatically. Click **Pause** to return to manual control of the Replay.

## HINT

has found up to that point. Handy for the impatient player, **Halt Search** is vital to the use of the Infinite level (see the **Level menu**), because it is one of the few ways in which SARGON IV will stop its search on that level.

This feature is also convenient if you accidentally enter the wrong move, and you wish to take it back. By clicking **Halt Search**, you can stop SARGON IV's search at once, take back the error, and continue playing (or you can simply UNDO your last move).

Clicking **Hint** asks SARGON IV to suggest a move for you to make. A move suggestion will be available whenever the opening library is connected or whenever SARGON IV has completed a move search.

When the opening library is connected, SARGON IV's suggested move will be a move from this library. You can request an alternate move suggestion, and SARGON IV will select another move from the opening library if it has another move that it considers "good."

**Hint** is available from **Verify Moves** mode as long as the position is in the opening library. (See the **Options menu, Verify Moves.**)

When SARGON IV suggests a move for you to make after it has just completed a move search, the move it suggests is the response that its search has shown to be the strongest for you. Occasionally, on the five-second level, SARGON IV will not be able to offer a move suggestion even after completing a

move search. If no move suggestion is available, this indicates that SARGON IV did not have time in its search to consider all of your possible replies to its move choice. In general, however, move suggestions will almost always be available at the five-second level and above, and they will usually be available at the 15-second level.

## TAKEBACK

Clicking **Take Back** allows you to retract a move during the course of the game. Each time you click, SARGON IV will retract the last move made in the position. You can thus step back through the game until you reach a desired position, and then continue play from that point.

If you like, you can change SARGON IV's moves. Simply click **Take Back**, and then play a move for SARGON IV. The program will then wait for your next response.

## DRAWOFFER

SARGON IV automatically announces draws resulting from the following situations:

- Stalemate
- Triple repetition of position
- 50-move rule

In addition, clicking **Draw Offer** allows you to offer SARGON IV a draw at any point in the game. For SARGON IV to be able to reply, it must have just completed a search. Therefore, if you have just taken back a move, or if you have just set up a position for play (see **Options menu, Change Board**), SARGON IV will have no basis upon which to decide

## CHANGE COLOR

whether to accept your offer. In such a case, SARGON IV will automatically decline the draw offer.

Clicking **Change Color** produces a dialog box that prompts you to indicate which color should move next. Under **Normal Play** conditions, this has the effect of letting one side move twice. Its more legitimate purpose is to allow you to specify which side is on the move after constructing a position using the **Change Board** feature.

When you click **Change Color**, you are in control of the next move regardless of which color you select. SARGON IV automatically begins playing the other side after your move. If you want SARGON IV to make the first move, click **Change Sides**.

## CANCEL OPENING LIBRARY

The opening library is a collection of Grand-master moves, beginning from the starting position of a game of chess and proceeding along variations that have been deeply analyzed.

The SARGON IV chess program has an opening library of more than 68,000 *unique positions* on the main program disk. This is by far the largest collection of opening moves ever supplied with a commercial chess program, and it samples the entire range of opening possibilities.

Clicking **Cancel Opening Library** disables the opening library, forcing SARGON IV to

## RESIGNENABLE

## SCREEN MENU

### INVERT BOARD

think for itself from the first move of the game or from the point in the game when this mode is selected.

Selecting **Resign Enable** causes SARGON IV to announce forced mates against itself, and resign if it sees that mate is inevitable.

#### Screen

Invert Board  
Hide Move List  
Hide Search Window  
Display Tree  
Hide Chess Clock  
Show Total Time  
Hide 3D Board

When you play a game of chess with an actual chess set, you set up the board so that the pieces of your color are on the side of the board

facing you. When you play chess with SARGON IV, you can accomplish this by placing the pieces of your color at the bottom of the display screen.

Clicking **Invert Board** allows you to switch the color shown at the bottom of the screen. The game board will show the pieces in the opposite configuration.

Note that inverting the board display does not affect the color of the pieces you are playing; it affects only the display. To actually change colors with SARGON IV, click **Change Sides**.

You can reverse the board display as often as you like. You might even want to invert the board while you are considering which move to make so that you can see things from your opponent's point of view.

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## HIDE MOVE LIST

Clicking **Hide Move List** causes the game list window to disappear. The menu will now contain **Show Move List**. Clicking a second time will cause the game list to appear once more.

## HIDE SEARCH WINDOW

The window on the search display gives you the opportunity to watch SARGON IV's move search in action. As long as SARGON IV remains in its opening library, this feature will be inactive. However, once SARGON IV starts thinking on its own, this display comes alive.

The left-hand side of the Search Window shows what is happening in the current search. The Current Depth column shows how many ply (half-moves) SARGON IV has looked ahead. The Score shows how well it thinks it is doing. A positive number indicates that SARGON IV thinks it is ahead; a negative number indicates that SARGON IV is behind.

All scores are relative to a pawn's being worth 100 points. Therefore, score values in the range of +99 to -99 usually indicate positional factors; scores over 100 usually mean that material has been won or lost. A checkmate score is +9999 or -9999. If mate has been foreseen, but has not yet occurred, this number will be reduced slightly, depending upon how far off the mate is.

## DISPLAY TREE

In order for you to see the rest of the display, SARGON IV must actually be thinking. To see an example of this, do the following:

- Click **Cancel Opening Library** from the **Features** menu.
- Click **Infinite** from the **Level** menu.
- Click **Change Sides** from the **Features** menu.

You will notice that moves will suddenly begin to appear in the two columns of the search window.

The column on the far left will be changing rapidly; here you are watching SARGON IV going up and down the search tree, examining moves. The column will grow and shrink in length, sometimes reaching many times the number shown for Current Depth. This is the capture search in action. SARGON IV will not rest and evaluate any position unless it has first resolved any captures possible and has reached a calm, quiescent position.

The number just to the right of the left-hand column is less active. Every now and then, a new line appears. This column represents the best line that SARGON IV has found so far in its search. If you were to click **Halt Search** to terminate SARGON IV's search at a particular point, the move that heads this column would be the move that the program would play. The second move in the column would be SARGON IV's suggested move for you. From this, you can see that the suggested moves are not quite so deeply searched as the moves that SARGON IV itself chooses. It follows, then, that if you

**SHOW TOTAL TIME/  
HIDE CHESS CLOCK**

were to play nothing but the suggested moves, you would probably lose.

Now click **Halt Search**. You will notice that the moves from the Best Line column have been copied to the right-hand side of the game list. The previous depth that is now shown on the right-hand side is the depth that SARGON IV had reached when you clicked **Halt Search**. The score shown is the score SARGON IV had computed when you selected this feature.

The right-hand side of the search window is stable. It shows you the results of the previous search. All of the moves that SARGON IV has been able to foresee are listed there (up to a maximum of nine ply). The other two columns are busily at work, since SARGON IV has assumed that you will make the suggested move and is already thinking about its response.

To stop the search display, select the screen menu and click **Hide Search Window**.

**CAUTION:** The **Search Window** will slow down SARGON IV by about fifty percent while the window display is on the screen. As soon as you **hide the Search Window**, the program will resume normal speed.

SARGON IV has a chess clock which will show you the amount of time each side has taken for its moves. When the **Show Total Time** option is selected, the clock will show the time each side has taken to make all the

moves of the game. When countdown levels are in use, the time shown by the chess clock is the time remaining in the game for each side, and the clock counts down instead of up.

To cancel the display of the chess clock, click on **Hide Chess Clock**.

## 3D BOARD

When this option is selected, SARGON IV uses a large three-dimensional board representation. Several different 3D chess sets are available to you. To choose a different set of chess pieces, see the **File menu, Open Set**.

## SPECIAL MENU

### Special

Great Games #  
Checkmate #  
Opening #  
Tactics #  
Strategy #  
Endgame #

The Special menu controls the **Great Games** and **Chess Problems** features of SARGON IV. (See Sections 3 and 4 for a complete explanation of these features.)

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## SECTION 3

# GREAT GAMES

The following 107 historical chess games were selected and briefly described by the American chess master Boris Baczynskyj. They are contained in the Great Games section of your SARGON IV disk. Each game can be retrieved from the disk and reviewed move-by-move to show you how grandmasters played some of their finest games.

### Special

Great Games #  
Checkmate #  
Opening #  
Tactics #  
Strategy #  
Endgame #

To see one of the Great Games, pull down the **Special menu** and click **Great Games**. A dialog box will appear asking for the number of the Great Game you wish to see. Type the appropriate game number and SARGON IV will load the game into memory. You can now replay the game (see **Options Menu, Replay**).

#### 1. Anderssen-Kieseritsky, London, 1851.

The "Immortal Game"—the most renowned sonnet from the Romantic Age of chess. Anderssen sacrifices half his pieces, then finishes Black off with an elegant mate.

#### 2. Anderssen-Dufresne, Berlin, 1852.

The "Evergreen Game"—the final Queen sacrifice deflects the Black King to a square where it will be subject to a fatal check. But did Black have a more effective move at his 19th turn? Dispute on this point continued well into the 20th century.

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### **3. Paulsen-Morphy, New York, 1857.**

Paulsen allows Morphy to blockade his development with 12...Qd3, then overlooks the necessity of playing 16.Qa6. A move later, Morphy unleashes one of his most dazzling combinations.

### **4. Schulten-Morphy, New York, 1857.**

Morphy sacrifices a couple of pawns to open lines for his better-developed pieces. Instead of returning some material in the interest of mobilization, White greedily tries to hold on to everything. The punishment is swift and certain.

### **5. Morphy-Duke of Brunswick and Count Isouard, Paris, 1858.**

This game was played in the loge of the Paris Opera House during a performance of "The Barber of Seville." The American wizard pounces on the amateur's lack of development; a few final hammer blows and the Black King's coffin is nailed shut while he is still on his original square.

### **6. Morphy-Lowenthal, London, 1858.**

Morphy offers a Queen-side pawn at the altar of initiative, then advances his King-side pawns to rip apart the Black position. After Morphy's 33rd move, Lowenthal is in "zugzwang"—any move he makes loses something.

### **7. Englisch-Steinitz, London, 1863.**

Not a spectacular game, but rather a methodical demonstration of play with the two Bishops. At the end, Steinitz exchanges into a precisely calculated pawn ending.

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**8. Anderssen-Steinitz, London, 1866.**

An intense struggle with many twists and turns. Steinitz finally achieves an ending with a pawn advantage, but his winning chances are problematic until Anderssen misplaces his Knight on the 51st move.

**9. Zuckertort-Blackburne, London, 1883.**

Zuckertort's cascade of unexpected shots from move 23 until the game's end, ten moves later, was labeled by Steinitz as "one of the greatest combinations, possibly even the most beautiful of all that have been created on the chess board."

**10. Chigorin-Steinitz, Havana, 1892.**

The brilliant and tragic "Father of Russian Chess" produces a crush in true romantic fashion. Typically, instead of the straightforward and strong 19.a5, Chigorin plays the much riskier and more complicated sacrifice 19.Nf7.

**11. Steinitz-von Bardeleben, Hastings, 1895.**

Steinitz catches Black's King in the center, then sacrifices a pawn at d5 so that his Knight can advance into the heart of Black's position. Black never resigned at the game's end; he stalked out of the playing hall while Steinitz demonstrated a forced mate to the astonished spectators.

**12. Pillsbury-Tarrasch, Hastings, 1895.**

Tarrasch called Pillsbury "a meteor of the chess sky." White's dynamic treatment of the opening made the Queen's Gambit a feared weapon in tournaments for years to come.

**13. Fleissig-Schlechter, Vienna, 1895.**

A brilliancy by the Austrian player who came very close to dethroning Lasker as World Champion in a match in 1910. Black sacrifices material repeatedly, then crowns his effort with an artistic checkmate.

**14. Pillsbury-Lasker, St. Petersburg, 1896.**

The game that Lasker considered the best of his long and glorious career. The combinational attack on the King initiated by Black's incredible 17th move is one of the prettiest in chess literature.

**15. Lasker-Napier, Cambridge Springs, 1904.**

A taut and complex game in which one shot follows another. The complications do not stop until move 28 when Lasker emerges with a positional advantage which he soon converts into a winning pawn ending.

**16. Rotlewi-Rubinstein, Lodz, 1907.**

A nova that will blind for as long as the game of chess is played. Rubinstein dwarfs his opponent with a precisely calculated combination in which every piece plays a role.

**17. Tarrasch-Lasker, World Championship Match, Duesseldorf, 1908.**

Facing the doctrinaire Doctor Tarrasch, Lasker launches his Rook on an unorthodox cruise, during which it is in imminent danger of being trapped. Such a sally must have irked Tarrasch, but the Rook survived and Black won the point.

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**18. Lasker-Janowski, World Championship Match, 1909.**

The temperamental Janowski outplays the World Champion. Lasker's fatal mistake is the weakening of his King's position with 44.f4.

**19. Marshall-Capablanca, Match, U.S.A., 1909.**

Not a complex game, but a fine demonstration of purposeful versus unfocused play. Capablanca obtains a Queen-side pawn majority. While Marshall shuffles to and fro, the great Cuban weaves his moves into a mosaic that produces a passed pawn and victory.

**20. Rubinstein-Lasker, St. Petersburg, 1909.**

Rubinstein sees just a move further than the World Champion to win a pawn, then plays an exemplary Rook-and-pawn ending.

**21. Tarrasch-Schlechter, Match, 1911.**

Tarrasch, whose books taught generations of chess players, sacrifices a pawn for the initiative. He then launches a tightly-calculated pawn storm of his opponent's King position.

**22. Nimzovich-Tarrasch, St. Petersburg, 1911.**

Tarrasch demonstrates the strength of "hanging pawns" when supported by superior mobility. One of them advances at the proper moment as a prelude to a double Bishop sacrifice, denuding White's King of pawn cover.

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**23. Rubinstein-Capablanca, San Sebastian, 1911.**

Capablanca misplays the opening, and Rubinstein secures a positional edge. A sparkling combination secures a pawn advantage and eventual victory.

**24. Rubinstein-Spielmann, San Sebastian, 1912.**

Spielmann, the Theoretician of Sacrifices, offers a whole Rook to drive White's King into the open. To avoid a quick death, White is forced to return the material. Spielmann then artfully transposes into a winning King and pawn endgame.

**25. Lasker-Capablanca, St. Petersburg, 1914.**

Lasker chooses the apparently innocuous Exchange Variation of the Ruy Lopez. White gradually gains a space advantage, and finally secures a tremendous outpost for his Knight at e6. The inevitable breakthrough follows, and Lasker's pieces overrun Black's position.

**26. Janowski-Capablanca, New York, 1916.**

Handed the open a-file and the two Bishops, Capablanca squeezes the life out of his opponent's position in textbook fashion.

**27. Capablanca-Marshall, New York, 1918.**

The famous game in which Marshall introduced his gambit against the Ruy Lopez. Although surprised, Capablanca calculates his way past all the torpedoes hidden in the position until he is able to fire a few decisive shots himself.

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**28. Lasker-Capablanca, World Championship Match, Havana, 1921.**

One of Capablanca's victories in wresting the World Title from the great Lasker, who had held it for 28 years. The new Champion described the game as "one of my best achievements, in a battle with one of the strongest chess players of all peoples and all times."

**29. Alekhine-Sterk, Budapest, 1921.**

After Black's pieces get tied down on the Queen-side, Alekhine lands several sudden blows to produce a decision on the other side—where the King is.

**30. Bogolyubov-Alekhine, Hastings, 1922.**

A full-board, epic struggle crowned by Black's two original queening combinations—one initiated on the 30th move, and the other—an echo—on the 47th.

**31. Tarrasch-Alekhine, Plistyan, 1922.**

Black sacrifices a pawn in the opening for a dominant central position, then unleashes a firestorm at White's King. Like many of Alekhine's best efforts, this won the tournament brilliancy prize.

**32. Maroczy-Tartakower, Teplice Sanov, 1922.**

Black makes an intuitive Rook sacrifice on his 17th turn. Only then does he finish his development to reinforce his attack. Although White has the time, he cannot find the means to construct a defense.

**33. Saemisch-Nimzovich, Copenhagen, 1923.**

Nimzovich's immortal Zugzwang Game. At the game's conclusion, White is a piece ahead, but any move will lead to material loss. So, he resigned.

**34. Reti-Lasker, New York, 1924.**

Played in the most famous tournament ever held on American soil, this game illustrates a fascinating clash of approaches to central control. Black's classical pawn center is countered by White's "hyper-modern" formation, trying to collapse the center by flank pressure. Lasker, and the classical approach, eventually triumph.

**35. Reti-Bogolyubov, New York, 1924.**

Black chooses an inferior system against the Reti Opening. Reti's final sparkling combination exposes Black's weakness on the last rank.

**36. Tartakower-Capablanca, New York, 1924.**

Tartakower did not lack a sense of humor; here he plays an obscure variation of the King's Gambit against the World Champion. Capablanca seizes the advantage as early as the 9th move; soon he mounts an irrefutable attack against the White King.

**37. Marshall-Bogolyubov, New York, 1924.**  
Marshall, the great tactician who was U.S. Champion for many years, earned a brilliancy prize for this game.

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**38. Reti-Alekhine, Baden-Baden, 1925.**

Alekhine, whose games included more beautiful combinations than those of any other player, considered this his best combination. Indeed, the attack initiated by Black's startling 26th move does not cease until White, faced with the loss of a piece, resigns.

**39. Johner-Nimzovich, Dresden, 1926.**

Nimzovich plays his patented defense to the Queen's pawn opening, and finally saddles White with doubled pawns. After a series of intricate blockading maneuvers, White is tied in knots. Note Black's piquant Queen maneuver to h7, and the manner in which he limits all possible White pawn advances.

**40. Nimzovich-Capablanca, New York, 1927.**

White exchanges pieces, angling for a draw. But his pawn position has a few holes, and Black sends his pieces through them.

**41. Capablanca-Alekhine, World Championship Match, Buenos Aires, 1927.**

Capablanca's best achievement in the marathon match which ended with him stripped of the world crown by the Russian challenger.

**42. Capablanca-Alekhine, World Championship Match, Buenos Aires, 1927.**

Black does not equalize until his 28th turn. But then Capablanca, still dreaming of an edge, overreaches and lands in an inferior heavy piece ending. The concluding phase of the game is difficult, but Alekhine meets the challenge.

**43. Sultan Khan-Menchik, Hastings, 1931-32.**

A win by the first Women's World Champion. The players castle on opposite wings, and Menchik's attack comes first.

**44. Rauzer-Botvinnik, Leningrad, 1933.**

Ignoring the attack on his Bishop, Botvinnik executes the thematic Sicilian thrust d6-d5, then concludes with a slashing onslaught on White's King.

**45. Alekhine-Lasker, Zurich, 1934.**

The great Russian champion produces a textbook example of how to use superior mobility and central predominance to force weaknesses in the opponent's position as a prelude to a decisive attack.

**46. Lillenthal-Capablanca, Hastings, 1935.**

A brilliant Queen sacrifice vs. the great Cuban! It forces open the e-file as an avenue of attack against the Black King stuck in the center.

**47. Euwe-Alekhine, World Championship Match, Amsterdam, 1935.**

One of Euwe's victories in the match that made him World Champion. White gains an advantage in the opening, then transposes because of a passed pawn and the two Bishops.

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**48. Alekhine-Reshevsky, Nottingham, 1936.**

Reshevsky, who for a half-century was at or close to the top of American chess, blunts Alekhine's attacking attempts, then outplays him in the ending.

**49. Fine-Alekhine, Margate, 1937.**

Fine, one of the greatest American players, obtains a positional pull against Alekhine. As he is preparing to exploit his advantage with a Queen-side attack, Alekhine weakens his own position, eventually losing material. A long but one-sided endgame follows.

**50. Botvinnik-Alekhine, Netherlands, 1938.**

The pawn position becomes symmetrical on move 11, but White has absolute control of the open c-file. Botvinnik converts that edge into a couple of pawns that decide the ending.

**51. Botvinnik-Capablanca, Netherlands, 1938.**

Botvinnik's most renowned game. With iron logic, White sticks to his plan of a pawn advance in the center, even at the cost of a pawn. Eventually, he obtains a passed pawn, then brilliantly sacrifices a Bishop to deflect the Queen blocking its advance. When he made the piece offer, Botvinnik had to calculate that at the end his exposed King could escape perpetual check.

**52. Keres-Capablanca, Netherlands, 1938.**

The young Keres out-combines Capablanca. The threat of a deadly King-side attack forces an endgame with two extra pawns for the Estonian.

**53. Botvinnik-Kann, Leningrad, 1939.**

One of Botvinnik's exemplary games that showed the chess world how to treat a particular opening system. Here, Botvinnik aims to occupy Black's weak d5-square. The Bishop that lands there dominates the rest of the game.

**54. Euwe-Keres, Netherlands, 1940.**

Keres sacrifices a Queen and pawn for Rook and Bishop. Note the power of the Bishops at the end as they converge on White's King.

**55. Smyslov-Reshevsky, Radio Match, USA-USSR, 1945.**

This game brought to the world's attention the thoroughness of Soviet opening preparation. Smyslov was familiar with the long forced opening sequence, while Reshevsky had to consume time to work out the moves over the board. At the end, Smyslov's Rook and two Bishops triumph over the American's Queen and pawns.

**56. Euwe-Najdorf, Zurich, 1953.**

A real melee in which material balance means little, but the initiative is paramount.

**57. Geller-Najdorf, Zurich, 1953.**

Geller provides a textbook demonstration of how a key strong square in the center can dominate a game. On move 19, White conceives the plan of occupying the d5-square, which cannot be controlled by a Black pawn. On move 32, the White Knight occupies the hole, and its superiority over the Black Bishop is the motif of the rest of the game.

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**58. Reshevsky-Bronstein, Zurich, 1953.**

A full struggle in every phase. The opening, the King's Indian Defense, was fresh at the time, the middlegame is tense, and Black converts his advantage in the ending with a study-like finish. An original performance by Bronstein, who drew a 1951 World Championship Match with Botvinnik.

**59. Botvinnik-Smyslov, World Championship Match, Moscow, 1954.**

Botvinnik and Smyslov played three World Championship matches during the 1950's. In this game—from the first match—Botvinnik squeezes Black's pieces. Note how Black's Queen Knight is unable to move until the game is already decided.

**60. Botvinnik-Smyslov, World Championship Match, Moscow, 1954.**

Smyslov surprises Botvinnik with his 11th move. Then Black reaches a position with three minor pieces against the opposing Queen. Here the pieces are stronger, as they converge in a coordinated cluster on White's King.

**61. Donald Byrne-Fischer, New York, 1956.**

This blinding brilliancy by the 13-year-old Fischer is known as the "Game of the Century." Starting with the salvo 11...Na4, Black has complete control of the game. Much later, Fischer labeled this his best game. Indeed, the young teenager saw everything.

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**62. Tal-Panno, Portoroz, 1958.**

Tal sacrifices a Rook and two pieces for the Queen. But the Black pieces are scattered around the board while White can zero in on a target—the g7 pawn. Black defends well in the unusual position, and nearly reaches a drawn ending. But then, wearied by the long struggle, he makes a fatal slip on his 41st move, and loses.

**63. Tal-Smyslov, Bled, 1959.**

One of Tal's flashiest victories on the road to the World Championship. He offers a piece for a blazing attack on Black's King.

**64. Tal-Fischer, Zagreb, 1959.**

The young Fischer carelessly grabs a couple of irrelevant pawns on his 20th and 21st moves. Tal's punishment for this loss of time is a swift attack against Black's King.

**65. Tal-Keres, Belgrade, 1959.**

Keres achieves a powerful centralized position. He then converts his edge in a difficult endgame.

**66. Botvinnik-Tal, World Championship Match, Moscow, 1960.**

A game which generated much subsequent analysis. Tal introduces mind-boggling complications by sacrificing a Knight on his 21st move. Botvinnik, like many others before him, is unable to untangle the web woven by the Riga magician, and loses his way in the ensuing melee.

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**67. Geller-Korchnoi, USSR Championship, 1960.**

This is the game that Korchnoi calls "dearest to my heart." Such a wide open struggle requires tremendous energy for detailed calculation of variations: Korchnoi demonstrates his superiority in this phase of the game. Geller finally falters on move 30, when Qg1 would have held the draw.

**68. Smyslov-Bilek, Sochi, 1963.**

A game that illustrates Smyslov's harmonious and economical style. After conducting the middle game with brisk originality, Smyslov secures a winning endgame in which his active pieces dominate Black's contorted army.

**69. Petrosian-Botvinnik, World Championship Match, Moscow, 1963.**

A wonderful demonstration of a strong Knight triumphing over a bad Bishop. Petrosian is one of the few players who regularly favors Knights over Bishops.

**70. Robert Byrne-Fischer, New York, 1963-64.**

The highlight of Fischer's 11-0 sweep of the U.S. Championship. From a stodgy opening, Fischer produces an unexpected Knight sacrifice, exposing the White King to the full fury of Black's pieces. So deep was Fischer's combination that Byrne believed he was winning until he saw Fischer's final move (Qd7!).

**71. Geller-Smyslov, Moscow, 1965.**

White launches a violent King-side attack. He offers his Queen four times, and each time it cannot be accepted without immediate loss. At the fourth offer, Black capitulates.

**72. Spassky-Petrosian, World Championship Match, Moscow, 1966.**

Spassky has attacking notions this game, but Petrosian seals off the lines to his King and gradually prepares a powerful attack of his own. After 42.fg4, White is a Rook ahead, but his King is fatally exposed.

**73. Petrosian-Spassky, World Championship Match, Moscow, 1966.**

Petrosian loves to sacrifice the exchange. In this game he sacrifices two exchanges, which opens the way for a decisive attack on Spassky's King.

**74. Larsen-Petrosian, Santa Monica, 1966.**

Larsen surprises the World Champion with a brilliant Queen sacrifice, leading to a mating attack.

**75. Keres-Portisch, Moscow, 1967.**

Portisch, for two decades Hungary's greatest player, outplays Keres in a prolonged minor piece ending—one of the finest of its type in chess literature.

**76. Stein-Keres, Moscow, 1967.**

Stein took first place in this tournament, one of the strongest ever held. In this game he achieves an overwhelming preponderance in the center and pushes his opponent to the wall.

**77. Botvinnik-Portisch, Monte Carlo, 1968.**

With his 16th move, Portisch thinks he has trapped Botvinnik's Rook. But Botvinnik sees farther: he sacrifices the exchange, then follows with another Rook offer, which cannot be accepted because of checkmate. The naked Black King cannot survive for long.

**78. Smyslov-Liberzon, Riga, 1968.**

Smyslov's 27th move is a sudden Queen sacrifice that introduces a strong King-side attack.

**79. Smyslov-Tal, Moscow, 1969.**

The game is placid until Smyslov upsets the balance by sacrificing his Bishop for Tal's Knight. Black's resulting doubled pawns prove to be crucially weak in the endgame. This game is a fine example of Smyslov's endgame wizardry.

**80. Spassky-Petrosian, World Championship Match, Moscow, 1969.**

Petrosian plays the opening lifelessly. Spassky achieves a predominance in the center and in piece mobility, then launches a murderous King-side attack.

**81. Spassky-Petrosian, World Championship Match, Moscow, 1969.**

Spassky secures a powerful passed pawn in the center. Black unwisely goes pawn hunting in search of compensation, but Spassky converts his central advantage into a decisive attack. The most beautiful game from the 1969 title match.

**82. Polugaevsky-Tal, Moscow, 1969.**

White sacrifices a central pawn to initiate an attack on Black's King. A Bishop sacrifice forces Black to exchange Queens to avert an immediate mate. Black struggles in an inferior ending, then loses after an inaccuracy on move 28.

**83. Larsen-Spassky, Match USSR-Rest of the World, 1970.**

Larsen's penchant for originality in the opening proves costly as Spassky obtains a powerful position with simple classical play. When opportunity knocks, Spassky sacrifices first a piece, then a Rook for his attack. Larsen resigns after only 17 moves.

**84. Fischer-Larsen, Palma de Mallorca, 1970.**

Fischer misplays an exciting opening variation, the Velimirovic Attack in the Sicilian Defense, and is soon a piece down. This was the American's only loss in the Interzonal Tournament, which he dominated on the way to the World Championship Match with Spassky.

**85. Fischer-Panno, Buenos Aires, 1970.**

Playing one of his pet openings—the King's Indian Reversed—Fischer drives home a crisply logical King-side attack. Noteworthy is 28.Be4, allowing White's last piece to join the fray.

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**86. Fischer-Unzicker, Siegen Olympiad, 1970.**

A strategically cohesive game: Fischer plays the Exchange Variation of the Ruy Lopez to secure a King-side pawn majority, then advances his pawns to transpose into an easily won endgame.

**87. Petrosian-Gligoric, Rovinj-Zagreb, 1970.**

For many years the Yugoslav Grandmaster Gligoric was one of the leading devotees of the King's Indian Defense. Here he uses that complex opening to generate a sacrificial attack against Petrosian's King.

**88. Fischer-Petrosian, Buenos Aires, 1971.**

A sparkling performance by the great American against the former World Champion.

**89. Petrosian-Fischer, Buenos Aires, 1971.**

The game that broke Fischer's incredible string of 13 straight wins in Grandmaster play. Fischer blunders on his 13th move, and Petrosian's incisive play never gives him a second chance.

**90. Fischer-Spassky, World Championship Match, 1972.**

Fischer's best win in the match that resulted in his becoming the first American World Champion since Morphy. Fischer's threats against Spassky's King win an exchange for a pawn. With flawless technique, Fischer drives his advantage home.

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**91. Fischer-Spassky, World Championship Match, 1972.**

For many years, Fischer used 1.e4 exclusively as his opening move. But here he surprises the World Champion with a Queen's Gambit Opening, and plays it to perfection. At the game's end, Spassky is completely tied up, and can only watch helplessly as White prepares the winning breakthrough. After resigning, Spassky joined in the applause for his opponent's magnificent play.

**92. Spassky-Tal, Tallinn, 1973.**

Tal's style lost some of its luster after he lost the World Championship back to Botvinnik in 1961. He remains, however, the darling of chess fans around the world. And occasionally the old dazzle returns—as it does here in his demolition of Spassky.

**93. Spassky-Tukmakov, USSR, 1973.**

In the sharp Najdorf Variation of the Sicilian Defense, Spassky sacrifices a Knight for pawns to expose Black's King to attack. White carries out a long siege; Black surrenders when White's pawns advance to deny breathing space to the Black King.

**94. Larsen-Korchnoi, Leningrad, 1973.**

White secures a broad center, but one vulnerable to attack. Korchnoi undermines it rapidly. White's last move is a blunder, losing a piece.

**95. Karpov-Uhlmann, Madrid, 1973.**

Playing his favorite line vs. the French Defense, Karpov infiltrates his Rooks into Black's position. Observe how helpless Black's Bishop is at game's end.

**96. Karpov-Spassky, Leningrad, 1974.**

Karpov emerges from the opening with a more compact pawn structure and better piece mobility. The rest of the game is an illustration of how to use such advantages to infiltrate the enemy camp.

**97. Karpov-Korchnoi, Moscow, 1974.**

A tense and double-edged game. The players castle on opposite wings, and maneuver to see whose attack will arrive first. Karpov outplays his opponent and wins a magnificent game.

**98. Browne-Bisguler, U.S Championship, 1974.**

The five-time U.S. Champion Browne finds a new 14th move in an ancient variation. The move succeeds, and Browne wins a fairly routine Rook ending.

**99. Korchnoi-Petrosian, Sochi, 1974.**

Korchnoi uses a central space advantage to defeat his bitter rival Petrosian.

**100. Karpov-Kavalek, Nice, 1974.**

On the first board of the USA-USSR match, Karpov executes one of his patented endgame squeezes.

**101. Karpov-Andersson, Milan, 1975.**

Andersson, Sweden's strongest player, makes a speculative exchange sacrifice vs. the World Champion. His ploy succeeds as Karpov erroneously accepts the sacrifice, then makes another decisive error on move 35.

**102. Ljubojevic-Andersson, Wijk aan Zee, 1976.**

White, the brilliant Yugoslav champion, sacrifices a pawn with his 12th move, a new idea in an often-reached position. Wonderfully complex play follows: Black's pieces get tangled on the Queen-side, and White is able to strike a few sharp blows against the Black King.

**103. Tatal-Karpov, Las Palmas, 1977.**

The World Champion sacrifices a pawn for long-term pressure, then breaks through to White's still-centralized King with the marvelous shot 23...Qd3.

**104. Alburt-Kasparov, USSR, 1978.**

Played when Kasparov was 15, this game is a fine illustration of the Soviet phenom's complicated energetic style. Possibly exhausted by the tangled play, White falters on his 25th and 26th moves.

**105. Kasparov-Palatnik, USSR, 1978.**

A smashing King-side attack by the current World Champion.

**106. Gaprindashvili-Dzindzhashvili, Wijk aan Zee, 1979.**

The former Women's World Champion gains the advantage in a sharp opening variation, then converts the full point with forceful endgame technique.

**107. Chiburdanidze-Dvojrís, USSR, 1980.**

The current Women's World Champion innovates in the much-studied position with the sacrifice 12.Nd5, and proceeds to blast through Black's defenses.

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## SECTION 4

# CHESS PROBLEMS

Chess is a non-verbal game, but, paradoxically, it has spawned a literature more voluminous than any other game. All aspects of chess have acquired concepts, criteria, and classifications. The experienced player selects a move after sorting through this web of knowledge to thread together the tapestry of each position.

**Chess Problems** is a collection of positions, each with a solution in the form of a move or variation. A discussion, outlining the thoughts of an experienced player, follows each solution.

This section does not aspire to be a complete primer of the game. Appended are a few recommended books, for those whose appetite for chess erudition is whetted.

The positions are grouped in five categories:

- **Checkmates** — some typical ways of accomplishing the game's ultimate objective.
- **Openings** — standard set-ups during the first phase of the game.
- **Tactics** — common ways of getting the upper hand by constructing forcing variations (i.e., White moves here, Black moves there, then White plays this winning move).

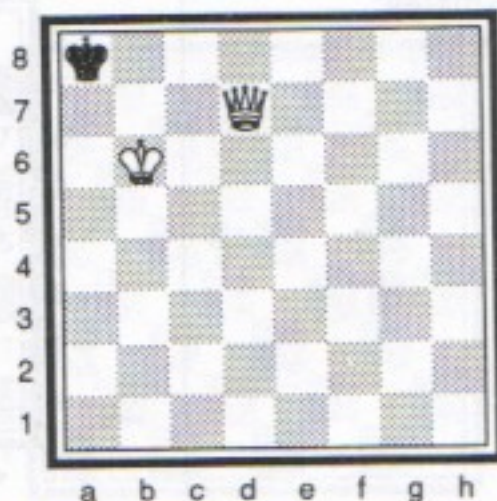
- **Strategy** — moves that try to secure permanent structural advantages.
- **Endgames** — winning in the concluding phase of the game.

In each problem (except for Openings, Problem 3), White is on the move. The presence of an ellipse, as in 16...Qa6, indicates that the move is made by Black.

To see one of these Chess Problems, pull down the **Special menu** and click the type of problem you wish to see (e.g., Checkmate). A dialog box will then appear. Type the desired problem number, and the problem position will appear on the screen.

## CHECKMATES

Checkmates:  
Problem 1



Solution: 1.Qa7, Qb7, Qc8, Qd8, or Qe8 checkmate

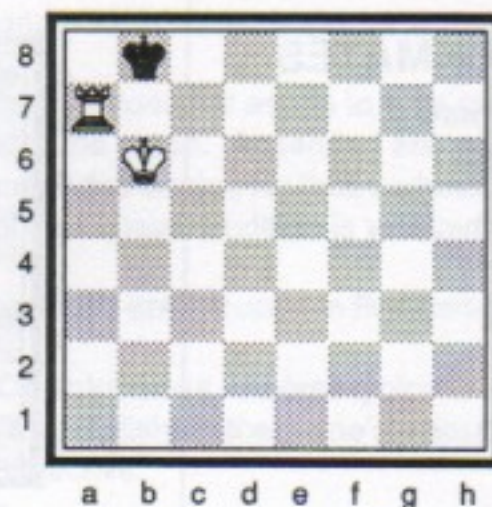
White has five different ways of checkmating the Black King. So many equivalent solutions are possible because of the Queen's great power and the unfavorable position of Black's King.

**Checkmates:  
Problem 2**



**Solution:** 1.Rg8 checkmate

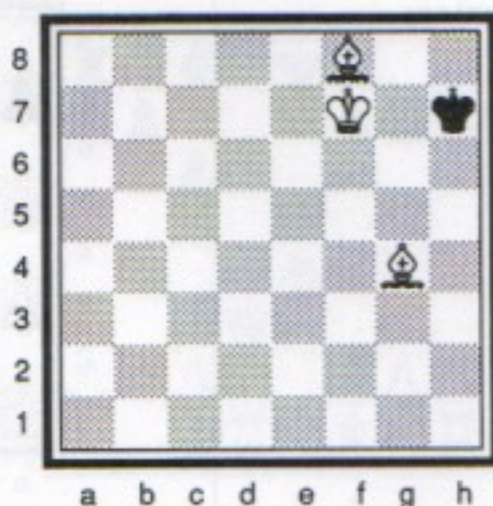
**Checkmates:  
Problem 3**



**Solution:** 1.Rc7 Ka8 2.Rc8 checkmate

In this position, checkmate cannot be delivered immediately. It is necessary to calculate that, after 1.Rc7, Black has only one legal move, 1...Ka8, which allows checkmate by White on his next move.

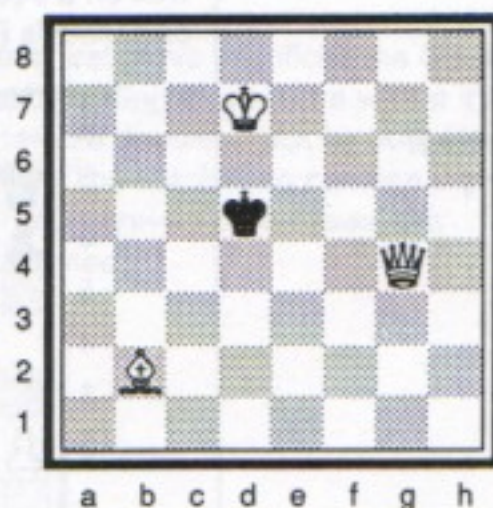
**Checkmates:  
Problem 4**



**Solution:** 1.Bf5+ Kh8 2.Bg7 checkmate

Here all three of White's pieces cooperate to deny every square to Black's cornered King.

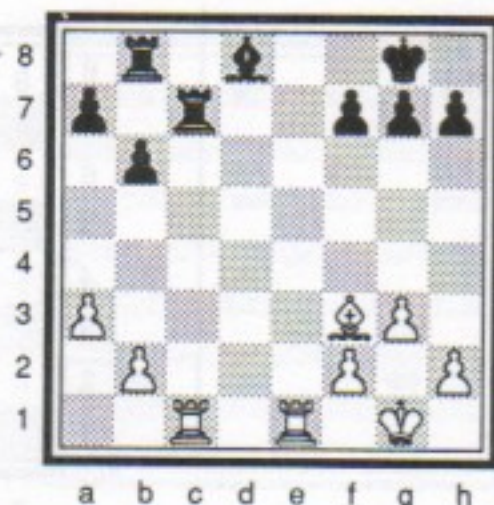
**Checkmates:  
Problem 5**



**Solution:** 1.Qd4 checkmate

White has many possible checks with the Queen, but there is only one checkmate.

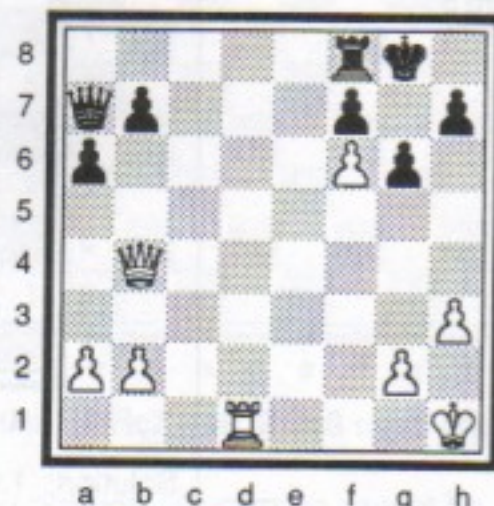
**Checkmates:  
Problem 6**



**Solution:** 1.Re8 checkmate

Black is weak on the back rank. Note that the mate would not be possible if any one of Black's King-side pawns (f7, g7, or h7 pawns) was on a square other than its initial square, or if Black's Bishop was in a different spot.

**Checkmates:  
Problem 7**



**Solution:** 1.Qxf8+ Kxf8 2.Rd8 checkmate

As in Problem 6, Black is weak on the back rank; but here two moves are required to expose that fatal weakness.

Checkmates:  
Problem 8



Solution: 1.Qd8+ Kxd8 2.Bg5 ++

- (a) if 2...Kd8 3.Rd8 checkmate
- (b) if 2...Kc7 3.Bd8 checkmate

White's first move sacrifices the Queen to deflect the King to a square where it is subject to a terrible double check by both Rook and Bishop. The Black King can flee in two different ways—in both cases, it is checkmated.

**Checkmates:  
Problem 9**



**Solution:** 1.Rxe4+

- |              |                 |
|--------------|-----------------|
| (a) 1...dxe4 | 2.Qe6 checkmate |
| (b) 1...Kd6  | 2.Qe6 checkmate |
| (c) 1...Kf7  | 2.Qe6 checkmate |
| (d) 1...Kf6  | 2.Qe6 checkmate |

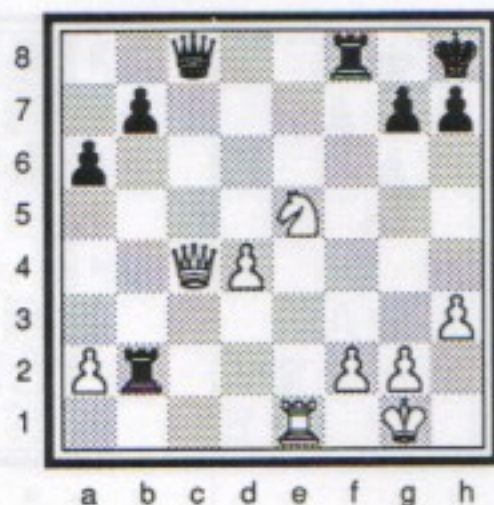
White forces checkmate in two moves by sacrificing the exchange to remove the key defender of Black's King. Note that Black's being up two pieces has no bearing on the situation—Black's King is too exposed.

**Checkmates:  
Problem 10**



**Solution:** 1.Qf8+ Bg8 2.Qf6+ Bxf6 3.Bxf6 checkmate

Checkmates:  
Problem 11



Solution: 1.Nf7+

(a) 1...Rxf7 2.Qxc8+ Rf8 3.Qxf8  
checkmate

(b) 1...Kg8 2.Nh6++ Kh8 3.Qg8+ Rxc8  
4.Nf7 checkmate

In variation (b), White sacrifices its Queen to force Black's Rook to occupy the only remaining square available to Black's King. This kind of checkmate is called smothered mate or Philidor's mate.

**Checkmates:  
Problem 12**



Solution: 1.Rh7+

(a) 1...Nxb7 2.Qg7 checkmate

(b) 1...Kxh7 2.Qg7 checkmate

White's first move is a space clearance sacrifice, freeing the way for the Queen to administer mate.

**Checkmates:  
Problem 13**



Solution: 1.Bxg7+ Kxg7 2.Qxg5+ Kh8 3.Qf6 checkmate

White exchanges a Bishop for a pawn to demolish a vital protector of Black's King.

**Checkmates:  
Problem 14**



**Solution:** 1.Qh8+ Kxh8 2.Bf6+ Kg8 3.Rd8+ Re8 4.Rxe8 checkmate

White's King seems in mortal danger, but White turns the tables on Black by giving up its Queen to decoy Black's King to a square where it is subjected to an unstoppable attack by White's remaining pieces.

**Checkmates:  
Problem 15**



**Solution: 1.Rd6**

- (a) 1...Nxd6 2.Be3 checkmate
- (b) 1...Rc8 2.Nxa6 checkmate
- (c) 1...Be8 2.Nxa6 checkmate
- (d) 1...Bd5 2.Nxa6 checkmate
- (e) 1...Ne7 2.Nxa6 checkmate
- (f) 1...Nd4 2.Nxa6 checkmate
- (g) 1...Ra8 (or any remaining move)  
2.Rc6 checkmate

The basic idea of White's first move, revealed in variation (a), is the blockade of the d6 square so that the Black King has no access to it. The Bishop is then free to administer checkmate, as the Knight no longer controls the e3 square.

As variations (b) to (g) show, Black is also threatened with two other checkmates: 2.Nxa6 and 2.Rc6. There is no move to deter both threats except for the fatal variation (a).

## OPENINGS

### Openings: Problem 1



Solution: 1.Nf3, 1.Nc3, 1.Bc4, 1.c3, 1.d4

(1.Nf3 is the most popular, and best, move in this position; the other moves are acceptable. Here, the choice of the move is influenced by a particular player's predilections.)

This position, after one move by each side, has been reached in countless games. By moving the e-pawn two squares, each side has sent a pawn into the center, and opened lines for the Queen and Bishop.

What are the possibilities now?

Queen moves are premature:

1.Qe2 and 1.Qf3 bottle up the development of White's King-side. 1.Qg4 exposes the Queen to immediate attack and loss of time (tempo) by 1...Nf6. The Queen will have to move again, while Black has developed a piece.

1.Qh5 seems to make more sense, as it attacks the e5-pawn and the f7-pawn (which is a weak spot because it is protected only by the King). But, Black will reply 1...Nc6, and the White Queen is misplaced and subject to future attack.

In general, it is a mistake to develop the Queen before other pieces are out. As it is the strongest piece, it will have to scurry, and lose time, when attacked by any other enemy unit.

#### What about Bishop moves?

1.Be2 puts the Bishop at a very modest spot. White, having the initial move in the opening, should strive to gain the advantage.

1.Bd3 is a mistake, since it places that piece on a square where it blocks the d2-pawn. That pawn will have to be moved to participate in the struggle for the center, and to allow smooth development of White's Queen-side pieces.

1.Bb5 needlessly exposes the Bishop on a square where Black can kick it with 1...c6.

1.Bc4 is a respectable move, initiating the Bishop Opening. It strikes at the f7-pawn. The move, however, is not fashionable, mainly because it violates the general principle of developing Knights before Bishops. The Bishop, the more far-ranging piece, has a greater choice of squares to which it can go.

Why not wait for the contours of the position to become more sharply defined before committing that piece?

Now, let us consider possible pawn moves.

Moves by the a, b, g, and h pawns do nothing to further White's piece development or strengthen White's grip on the center. Indeed, moves by these pawns can create weaknesses (squares which cannot be controlled by pawns) that will be a source of problems later in the game.

The move 1.c4 also creates such a weak square, at d4.

1.c3 has an idea behind it: to prepare the pawn push d4, and if Black plays e5xd4, White will be able to recapture with cxd4 and maintain a couple of strong central pawns. But 1.c3 is a ponderous move—it blocks the most natural developing square of the Knight at b1.

1.d3 is also uninspiring—it opens the diagonal for the Bishop at c1, but is shortens the range of White's other Bishop.

1.d4 is sometimes played, but it is premature. If play proceeds 1...e5xd4 2.Qxd4 Nc6, White will have to waste time removing the Queen from peril. 1.f3 is about as bad as a move can be: it weakens the King position by opening the e1-f2-g3-h4 diagonal, and it does nothing for White's development—in fact, it blocks the most natural square for developing the Knight on

g1. 1.f4 aims to knock out Black's e5-pawn, even at the cost of a pawn. It introduces the King's Gambit, an opening not as popular now as in the storied Romantic Era of chess more than a century ago.

#### How about Knight moves?

1.Ne2 does develop a piece, but not to an aggressive post. The move also temporarily hems in the Queen and the Bishop on f1.

1.Nh3 and 1.Na3 are also inferior, because Knights on the side of the board have less range than on the more central squares.

1.Nc3 develops the Knight to a central square; it initiates a common opening—the Vienna Game.

Finally, 1.Nf3 is the best move in the position. It develops the Knight centrally, and grants White the initiative. Black will have to do something about his e5-pawn, which White has attacked.

Openings:  
Problem 2



Solution: 1.0-0

In this position, White has several other reasonable moves, but none are as good as 1.0-0.

The most obvious move is 1.Nxe5, taking the Black pawn which is undefended. The gain of a pawn, however, is only apparent. Black has two replies which regain the pawn with a good position: (a) 1...Qd4 is a double attack on the undefended Knight and the e4-pawn; White has no move to save both. (b) 1...Qg5 attacks the Knight and the g2-pawn. Again, both cannot be defended simultaneously. On 2.Nf3 Qxg2, White will no longer be able to castle on the King-side.

1.Nc3 develops a piece and protects the e-pawn, but later in the game the Knight might better be developed to d2.

1.d3 and 1.Qe2 are passive moves, putting no pressure on Black.

1.d4 was, for many years, the standard move



in this position. It opens lines for the Queen and the Bishop on c1. Also, it prepares to exchange the d-pawn for the e5-pawn, leading to a position in which White has a 4-3 pawn majority on the King-side (e to h pawns). Such a pawn set-up is White's main strategic idea in this opening variation.

However, 1.0-0 is the strongest move in the position. Castling is usually a good idea because it removes the King from the center, where it is in greater danger of being attacked, and it activates a Rook.

Also, in this position, 1.0-0 makes the threat of the Knight's capturing the e5-pawn real. In contrast to variations where that move is played before castling, the g2-pawn is now defended by the King. The e4-pawn, though not directly defended, would be unappetizing for Black to capture with the Queen, since the Rook is now able to move to e1, where it could generate threats to the Black King.

Castling thus retains the initiative for White, since Black on his next turn has to cope in some fashion with the threat against the e-pawn.

Openings:  
Problem 3



Solution: 1...Bb6

Black's Bishop is attacked, and Black has only two moves to save it from immediate capture.

The alternative to 1...Bb6, 1...exd4, is an error because White will recapture 2.cxd4. In the resulting position, White will have a great space advantage in the center. White's e and d-pawns occupy and control the four central squares. As Black has exchanged its forward e5-pawn, the only counterweight to White's strong central phalanx would be the puny Black pawn at d6.

1...Bb6, on the other hand, maintains Black's central strongpoint, and prevents Black from getting too cramped a position.

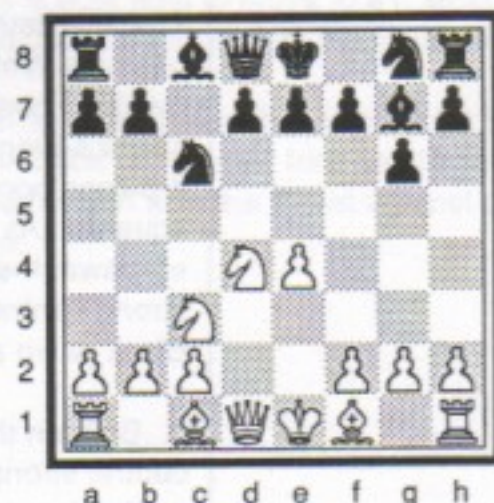
Openings:  
Problem 4



Solution: 1.b4 Qc6 (on any other move, the Queen is immediately captured) 2.Bb5 Qxb5 3.Nc7+ Kd8 4.Nxb5

An example of what might happen when the Queen starts wandering around the board too early in the opening. White forces the win of the Queen for a minor piece.

Openings:  
Problem 5



Solution: 1.Be3

The White Knight on d4 is attacked, and White must do something. 1.Be3 is best

because another piece is developed, and the Knight remains on its strong central post.

Inferior are:

- (a) 1.Nxc6 bxc6, and Black has fortified its central position because the pawn at c6 has more influence than at b7.
- (b) 1.Nb3 puts the Knight at a less effective spot.
- (c) 1.Nf3 also decentralizes the Knight, and blocks the f-pawn which White might later want to advance.
- (d) 1.Nde2 is passive, blocking the King Bishop.
- (e) 1.Nb5 a6 2.Na3 leaves the Knight terribly misplaced.

## TACTICS

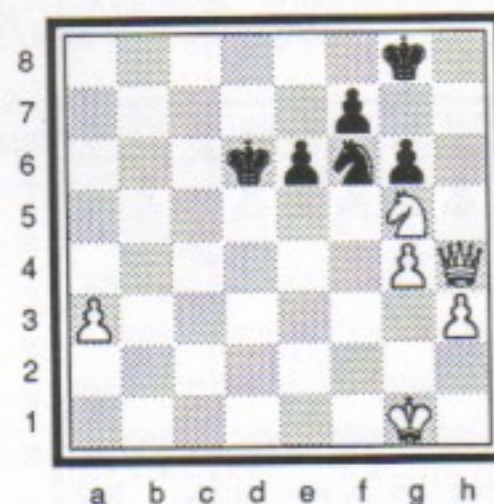
### Tactics: Problem 1



Solution: 1.Qe5

An example of double attack. Both of Black's Rooks are attacked by the Queen, and there is no one move to save the two simultaneously.

### Tactics: Problem 2



Solution: 1.Qh8+ Kxh8 2.Nxf7+ Kg7 3.Nxd6

White's first move decoys the Black King to a square where the Black King and Queen are subject to a Knight fork. As a result of the combination, White wins a pawn and should

**Tactics:  
Problem 3**

win the ending. Also, with the Queens off the board, White will no longer have to worry about attacks against its exposed King.



**Solution: 1.d5**

This double attack is called a pawn fork. Black's Knight on c6 and Bishop on e6 are simultaneously attacked, and Black will have to give up a piece for a pawn.

**Tactics:  
Problem 4**



**Solution:** 1.Rd1+ Ke7 (or Kc7) 2.Rxd8 Kxd8  
3.Bxb6+ K (any) 4.Bxa5

A combination which garners White an overwhelming material advantage. Black could minimize its loss by varying with 2...Rxb5, but with only one pawn for the piece, Black would have scant chance of saving the game.

**Tactics:  
Problem 5**



**Solution:** 1.Ra8 Rxh7 2.Ra7+ K (any)  
3.Rxh7 and White wins

**Tactics:  
Problem 6**

The position is resolved by an x-ray attack through Black's King to win the Rook. Instead of 1...Rxf7, Black can start a series of checks with 1...Rh2+; however, this method will not change the result, since the White King will approach the h-file and the Rook will run out of safe checks. If Black does not capture the h7-pawn eventually, it will advance and Queen.



**Solution:** 1.Re1

The Queen is pinned; she cannot move because the King would then be exposed to check. Black cannot avoid losing the Queen for the Rook—a devastating material handicap.

**Tactics:  
Problem 7**



Solution: 1.Rf1 Rd1 2.Qh5+ K (any) 3.Qxf3

A battle of pins. With its first move, White pins the Black Queen against the King. Black responds with a counter-pin, apparently saving the Queen. White, however, has the final word on its second move, winning the immobilized Queen.

**Tactics:  
Problem 8**



Solution: 1.Qa4

(a) 1...Qxa4 2.Rb8+ Qe8 3.Rxe8  
checkmate

Tactics:  
Problem 9

- (b) 1...Qxg6 (or any other move which does not put Queen in take) 2.Qxc2  
(c) 1...Rc6 2.Qxc6 Qxc6 3.Rb8+ Qe8 4.Rxe8 checkmate

The Black Queen has to guard the weak back rank. White's first move attacks both the Queen and the unprotected Rook on c2.



Solution: 1.Ne5

- (a) 1.Bxa4 2.Bxf7 checkmate  
(b) 1...e6 2.Nxc6  
(c) 1...Qd6 2.Nxc6 Nxc6 (if 2...Qxc6, 3.Bb5 wins Black's Queen because it is pinned to the King)

White's Queen is attacked. But, instead of moving the Queen, White makes a *zwischenzug* (an intermediate move), which has an even more compelling threat—checkmate. Black can save its King, but only at the expense of a piece.

**Tactics:**  
**Problem 10**



**Solution:** 1.Qxh7+ Kxh7 2.Ng5+ Kh6  
3.Nxf7+ Kh7 4.Ng5+ Kh8 5.Nf7+  
with a draw by perpetual check

In the initial position, White has a huge material deficit and is face-to-face with defeat. The prosaic 1.Bxg6 would scarcely improve the situation, since White would still be more than a Rook behind. 1.Ng5 allows a devastating Black attack, starting with 1...Bc5+ (not 1...Rxg5 2.Qxh7 checkmate). White's salvation is a Queen sacrifice, deflecting the Black King to a square from which he will be subjected to inescapable pursuit by the two remaining White pieces. The game ends as a draw because of the three-fold repetition of position rule.

## STRATEGY

### Strategy: Problem 1



Solution: 1.Rc1

Rooks belong on open files. Usually, they are strongest on the seventh rank. Here 1.Rc1 seizes the open file. No matter how Black replies, White will be able to play 2.Rc7, winning a pawn in every variation.

### Strategy: Problem 2



Solution: 1.axb3

White's decision is whether to recapture the Knight with the a-pawn or the c-pawn. 1.cxb3 opens the c-file for the Rook, but Black can hold its own here with 1...R(f)f8. 1.axb3 is

**Strategy:  
Problem 3**

preferable because it is usually better to capture toward the center (which is the most important part of the board), and because after 1.axb3, the White pawns are more united than after the other capture (i.e., there is only one gap on the f-file between them, instead of an additional gap on the c-file).



**Solution: 1.Ne6**

Although Bishops and Knights are nearly equal in value, the Bishop, being longer-ranging, is often the superior piece. This is especially true in this position, where Black has many weak white squares. By playing 1.Ne6, White is attacking both the Queen and the Rook; Black's only move to prevent loss of the exchange is 1...Bxe6. After 2.Qxe6, White's white-squared Bishop radiates power.

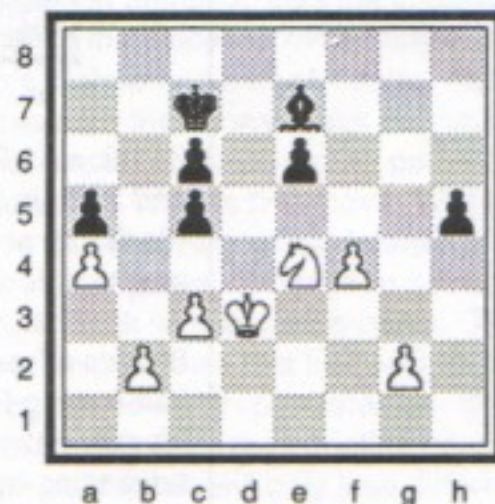
Strategy:  
Problem 4



Solution: 1.Ne3

At f1, the Knight is not active. With this move, White is aiming for the strong square, d5. There, the Knight would have an excellent central post, protected by the e4-pawn, and Black cannot chase it away with any of his own pawns.

Strategy:  
Problem 5



Solution: 1.Kc4 Kb6 2.g3

(a) 2...Bf8 3.Ng5 and White wins a pawn

(b) 2...K (any) 3.Nxc5

(c) 2...h4 3.gxh4 Bxh4 4.Nxc5

**Strategy:  
Problem 6**

Black's pawns are weak: all of them are isolated (i.e., they cannot be guarded by other pawns), and the c6 and c5 pawns are doubled (i.e., two pawns of the same color on one file). With its second move, White sets up "zugzwang" (a position in which every move available to the side on move worsens its position). Black has to lose at least a pawn—a direct consequence of its weak pawn position.



Solution: 1.Rc1 with the threats of 2.Bxb6 and 2.d6, in both cases winning a pawn. Black has no reply which could preserve the pawn.

Black's c7-pawn is backward (i.e., it is on the half-open c-file, it is behind its neighboring friendly pawns, and it is restrained from advancing by White's b5 and d5 pawns). A backward pawn is usually a good target for the opposing pieces.

**Strategy:  
Problem 7**



**Solution:** 1.Qd5 Qe8 2.a5 h6 3.Qxf7+ Qxf7 4.Bxf7+ Kxf7 5.a6 d5 6.a7 any 7.a8(Q) . With the material advantage of Queen vs. Bishop, White will win easily.

This position demonstrates the importance of mobility of the pieces in evaluating a position. White's Bishop and Queen control more squares than their sorry Black counterparts. In addition, White has a strong passed pawn on the a-file. With its first move, White ties Black's Queen down to the defense of the vulnerable f7 pawn. White then advances on the other flank with its free a-pawn. This alternation of threats is a frequent method of cashing a mobility preponderance. Black can play differently from the variation cited in the solution, but Black will only lose differently. Note that Black's extra pawn plays no role here.

**Strategy:  
Problem 8**



**Solution:** 1.Rc6 Rxc6 (otherwise White wins either the b or d-pawn, with a winning endgame) 2.dxc6 Rd8 3.Rxd6 Rxd6 4.c7 and the pawn will Queen next move

Although at first sight the position seems nearly symmetrical, White has two points in its favor: (a) White controls more space, and (b) it is White's move. With White's first move, White occupies a strong outpost square on the open file. No matter how Black responds, Black is saddled with a losing endgame.

**Strategy:**  
**Problem 9**



Solution: 1.g4 (a) 1...Bxe5 2.gxh5  
(b) 1...Nf4 2.Bxf4  
(c) 1...Nf6 2.exf6  
(d) 1...Ng3 2.hxg3

Knights are least effective on the board's edge, because they control few squares from that position. White's first move traps the Knight—it has no safe retreat.

**Strategy:**  
**Problem 10**



Solution: 1.g4 Bg6 2.Nd2

White locks the Black Bishop out of play. At the first opportunity, White will continue with



f3, and there will be no way for the Black Bishop to break out of its dungeon. In effect, White will be a piece ahead. White can utilize this edge on the other side of the board, laying siege to Black's main weakness—the d6-pawn—with its Rook, Knight, and if necessary, its King. Eventually, that pawn will fall to White's superior force. With its d5-pawn becoming passed, White should have an easy time of it. During the whole procedure, Black's Bishop will be a helpless bystander at g6.

The solution to this problem, and the correct subsequent procedure, is an illustration of a plan—the framework of strategic thinking about chess. The outlined procedure might take many moves to execute, but conceptually it is quite simple.



## ENDGAMES

### Endgames: Problem 1



Solution: 1.b6

- (a) 1...axb6 2.c6
  - (a1) 2...bxa5 3.cxb7 and the b-pawn will queen
  - (a2) 2...bxc6 3.a6 and the a-pawn will queen
- (b) 1...cxb6 2.a6
  - (b1) 2...bxc5 3.axb7 and the b-pawn will queen
  - (b2) 2...bxa6 3.c6 and the c-pawn will queen
- (c) 1...any other move 2.bxc7 or 2.bxa7, depending on circumstances, will yield an unstoppable passed pawn

This example illustrates a pawn breakthrough leading, in all variations, to a passed pawn with which Black cannot cope.

**Endgames:  
Problem 2**



**Solution:** 1.Kd5 Ke7 2.Kc6 Kd8 3.Kd6 Kc8 4.Ke7 Kc7 5.d5 Kc8 6.d6 K (any) 7.d7 K (any) 8.d8(Q) and White wins

A crucial position in the King plus pawn vs. King ending. If White plays any other first move, the position will be drawn.

For example:

(a) 1.d5 Kd6 2.Kd4 Kd7 3.Kc5 Kc7 4.d6+ Kd7 5.Kd5 Kd8 6.Ke6 Ke8 7.d7+ Kd8 8.Kd6 and draw by stalemate

(b) 1.Ke5 Ke7 2.Kd5 Kd7 3.Kc5 Kc7 4.d5 Kd7 5.d6 Kd8 6.Kc6 Kc8 7.d7+ Kd8 8.Kd6 and draw by stalemate

The key idea in winning the ending is for White to seize the opposition with its King in front of the passed pawn. Opposition is defined as the separation of Kings on the same line or diagonal by an odd number of squares. In the solution, White gains the opposition with its first move.

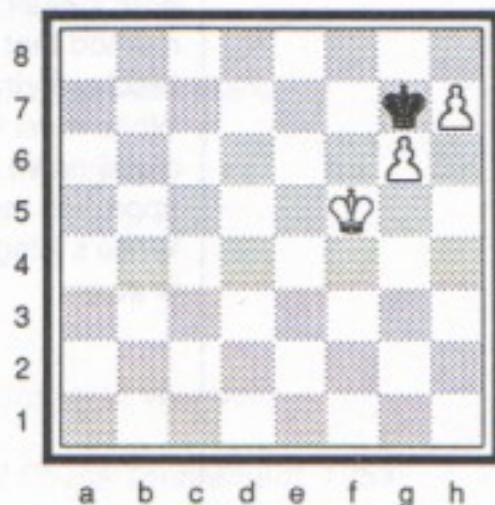
Endgames:  
Problem 3



Solution: 1.Bd6 K (any) 2.Bb7 winning the Knight and the game

With its first move, White controls all the Knight's escape squares, while the second move prepares to capture it.

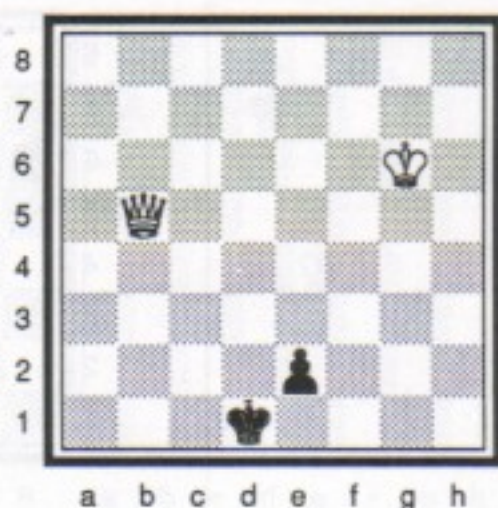
Endgames:  
Problem 4



Solution: 1.h8(Q)+ Kxh8 2.Kf6 Kg8 3.g7 Kh7 4.Kf7 Kh6 5.g8(Q) and White wins

To win this endgame, White has to sacrifice the h-pawn. A wrong try is 1.Kg5 Kh8 2.Kf6, and the game is a draw by stalemate.

**Endgames:  
Problem 5**



**Solution:** 1.Qd3+ Ke1 2.Kf5 Kf2 3.Qd4+ Kf1  
 4.Qf4+ Kg2 5.Qe3 Kf1 6.Qf3+ Ke1 7.Ke4  
 Kd2 8.Qd3+ Ke1 9.Kf3 Kf1 10.Qxe2+ Kg1  
 11.Qg2 checkmate

Both sides can vary their moves. It is the method that is important. Given a free move, Black will draw the game by queening. So, White must keep driving Black's King in front of the pawn to buy time so that he can approach the pawn with his own King. Once White's King is near the enemy pawn, the rest is easy.

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Most of these books are available, at special membership prices, from the U.S. Chess Federation.

# PIECE SCULPTOR

## ABOUT PIECE SCULPTOR

With Piece Sculptor you can become a master carver, creating your own chess sets for SARGON IV in your own shapes and sizes. Your pieces can be the finest sets imaginable, be they made of wood, marble, or glass.

## OPENING PIECE SCULPTOR

Open Piece Sculptor like any other Macintosh application. Just double click on the Piece Sculptor icon or on a chess set icon. When Piece Sculptor starts, it brings up a window like this:

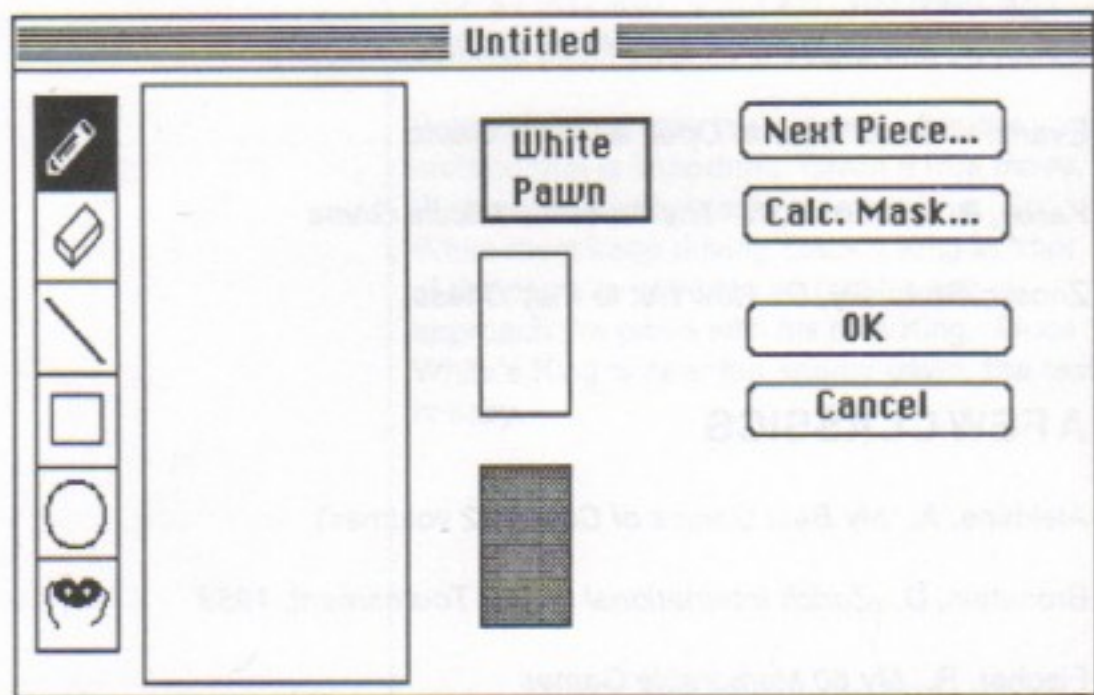


Figure 1

Notice a *work box* where you actually do your drawing, a *palette* containing several tools, several *buttons*, and a display of the current piece and how it looks when viewed through the mask. Sculpt the piece by selecting a tool from the palette, then clicking and dragging in the work box, much like when using Fat Bits in MacPaint®. Figure 2 depicts the different tools.

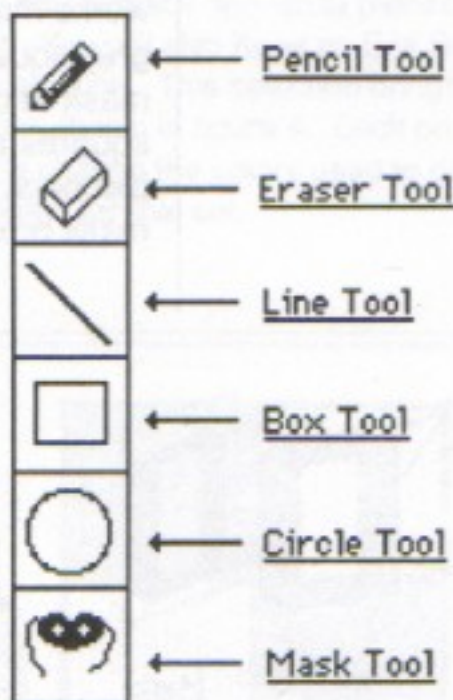


Figure 2

## HOW THE TOOLS WORK

The Pencil Tool works like a pencil in your own hand, drawing a black or a white line wherever you go. If the first pixel you click on is white, the pencil draws in black; if the pixel is black, the pencil draws in white. The Eraser Tool, on the other hand, erases black pixels and leaves white ones alone. Dragging with the line, box, and circle tools produces straight lines, rectangles and ovals.

If you want to draw solid boxes and ovals, hold down the option key when you drag with the box and circle tools. You can use the Mask Tool to draw or edit the mask for the current piece. When you select the mask, the work area is redrawn showing pixels that are under the mask in grey. The mask tool then works much like the pencil; clicking on grey squares removes them from the mask and clicking on white or black squares adds them to it. You can doublecheck your progress by looking at the mask box.

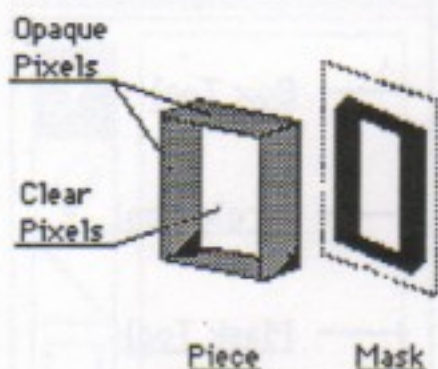


Figure 3

## THE BUTTONS

There are four buttons in the Piece Sculptor window: the *Next Piece* button, the *Calculate Mask* button, and the *OK* and *Cancel* buttons. The most interesting is the *Calculate Mask* button. When you click on it, Piece Sculptor calculates the solid and hollow parts of the picture from the Clipboard into the work box.

## THE FILE MENU

## THE EDIT MENU

The Invert option inverts the piece pixels that are "under" the mask (calculated by clicking the *Calculate Mask* button or created with the masktool).

On a Mac II, you will also have *Black and White* and *Color* selections. The *color* selection allows you to create color pieces for your sets while the *black and white* selection lets you create black and white pieces for your set. You will also have an Edit Board Colors selection. This selection brings up the dialog box shown in figure 4. Click on the arrows to change the colors used to draw the chess board for this set.

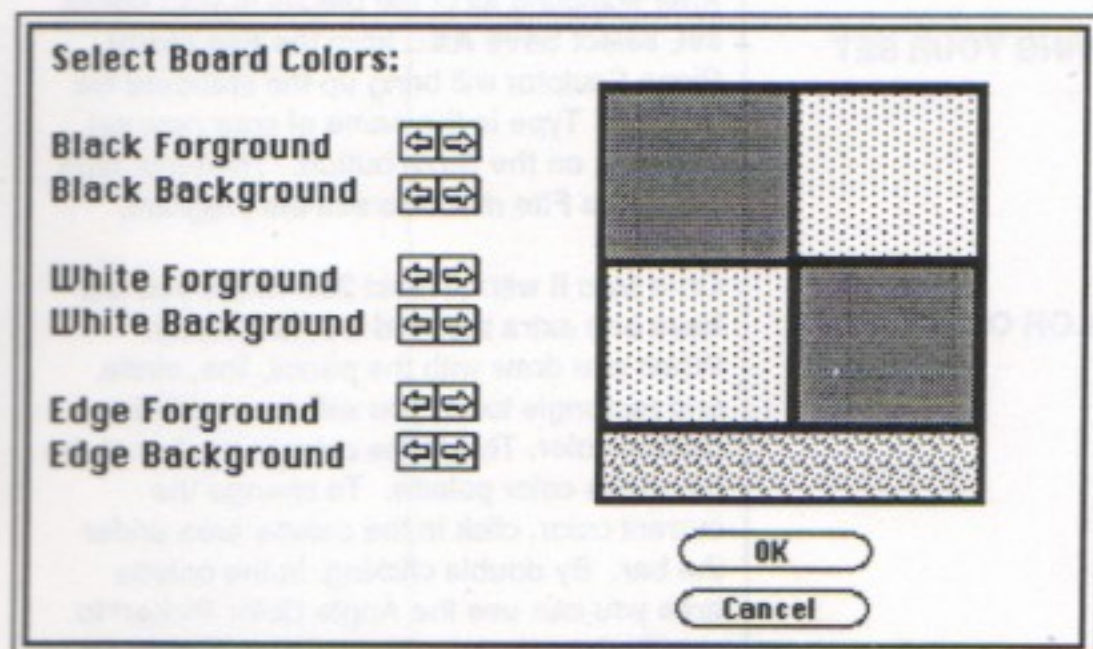


Figure 4

## THE PIECES MENU

Example: *Copy* a white pawn to the Clipboard, then choose **Black Pawn** from the **Pieces** menu. Now *Paste* the white pawn into the work box. Click the *Calculate Mask* button, and choose **Invert** from the **Edit** menu. You have just created a black pawn to go with your white pawn.

The **Pieces** menu lists all of the different pieces in a chess set, with a check mark next to the one you are currently working on. Selecting any of the other pieces from this menu will move that piece to your work box.

## SAVING YOUR SET

After sculpting all of the pieces in your chess set, select **Save As...** from the **File** menu. Piece Sculptor will bring up the standard file window. Type in the name of your new set and click on the **Save** button. Then use **Quit** under the **File** menu to exit the program.

## COLOR ON A MAC II

On a Mac II with at least 256 colors you will have one extra tool and a color palette. When you draw with the pencil, line, circle, and rectangle tools, you will draw with the current color. This is the color in the bar at the top of the color palette. To change the current color, click in the palette area under the bar. By double clicking in the palette area you can use the Apple Color Picker® to modify the colors in your palette. The extra tool is called the inkwell tool. When you click in the work area with the inkwell tool, Piece Sculptor changes the current color to the color under the cursor.

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**INSTALLING  
SARGON IV ON A  
MAC II**

To install Sargon IV on a Mac II create a folder called 'Sargon' on your hard drive, then copy everything on both disks *except* the system folder.

IN-D-MC-S3D