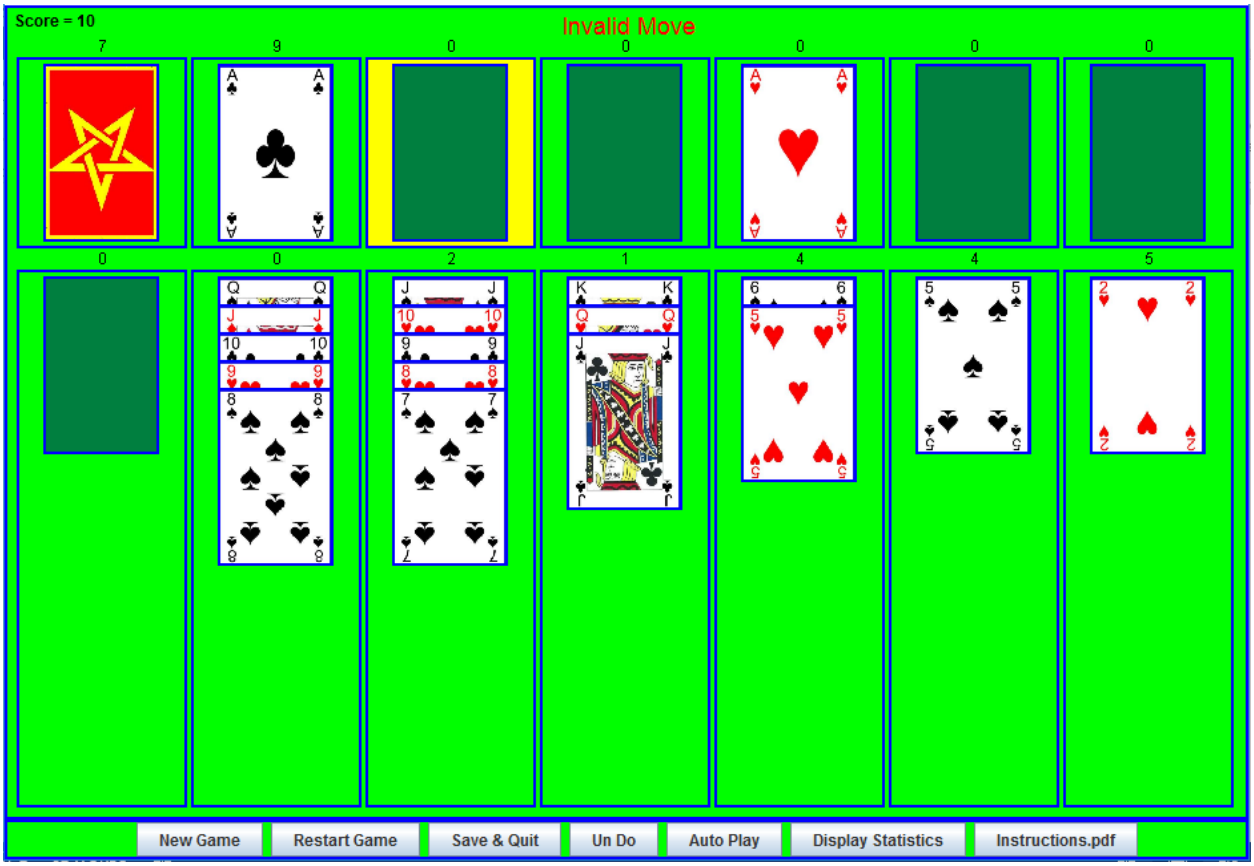
Instructions for Solitaire



How to Play

The objective of the game is to move cards to the four card stacks at the upper right of the screen. For example, in the illustration above the *Ace of Hearts* has been moved to one of these stacks.

Card Stacks

There are fourteen card stacks displayed for the game, seven upper stacks and seven lower.

Upper Stacks

From left to right, the upper stacks are the *new card stack*, the *discard stack*, the *display stack* and the four *scoring stacks*.

New Card Stack

As the game opens, the *new card stack* contains 24 cards, with the top card face down. As the game progresses you select and move these cards one at a time.

Discard Stack

As the game opens, the *discard stack* is empty. A left mouse click on the *new card stack* will move the top card to the *discard stack* where it will be displayed face up.

Display Stack

The *display stack* shows the current card that is in the process of being moved.

Scoring Stacks

As the game opens the *scoring stacks* are empty. You will move cards to these stacks as play progresses.

Lower Stacks

As the game opens the seven lower stacks contain from 1 to 7 cards, with the top card displayed face up.

Moving Cards

You can move cards in several ways.

Click Cards

To select cards on stacks other than the *new card stack*, you click a mouse button with the cursor over the card that you want to select. You can then click again with the cursor over the card where you want to place the selected card and the selected card will move there if the move is valid.

The *new card stack* behaves differently than the others. If you left click on the new card stack the top card will move to the discard stack, where it will be displayed.

Drag and Drop

You can press a mouse button with the cursor over a card to select it and then drag the card with the mouse button pressed to the card where you want to place it. You release the mouse button to drop the card in the place you want to put it.

Auto Move

If you right click on a card it will automatically move to an upper *scoring stack* if there is a valid move that will do that. If no such move is available the action will be the same as if the left mouse button was pressed. This also works when clicking on the *new card stack*. If you right click on the hidden card on the top of the *new card stack* it will be moved to a scoring stack if it such a move is valid.

Auto Play

If you left click on the *Auto Play* button the computer will search for and make valid moves to the upper *scoring stacks*.

Un Do

Pressing the *Un Do* button or typing *ctrl-z* will reverse the last move that you made. This process can be repeated until the start of the game is reached. The game does not remember the erased moves, however. There is no companion *ctrl-y*.

Valid Moves

Provided that the moves are valid, you can move a single card from the upper stacks. You can move stacks of cards from the lower stacks. You can place single cards on top of the upper stacks. You can place stacks of cards on top of the lower stacks.

Valid Moves to Empty Stacks

You can place an ace on any empty *scoring stack*. You can place a king on any empty lower stack.

Valid Moves to Stacks That Aren't Empty

You can place a card on an upper *scoring stack* if the card is from the same suite as the card on which it is placed and if the card's rank is one greater.

You can place a card on a lower stack if the card has a different color than the card on which it is placed and if the card's rank is one less.

Invalid Moves

If you try to make an invalid move the card you are trying to move is put back where it came from.

Examples of Valid Moves

In the illustration above: The *Ace of Clubs* could be moved to any empty scoring stack. The *2 of Hearts* could be moved onto the *Ace of Hearts*. The *King of Clubs* could be moved to the lower empty stack, thus exposing the card that is beneath it. The *10 of Hearts*, together with the cards on top of it could be moved from on top of the *Jack of Spades* and be placed on the *Jack of Clubs*.

Refreshing the New Card Stack

When the *new card stack* is empty right clicking on it will transfer the cards remaining on the *discard stack* back to the *new card stack*.

Displays

Score

The current total game score is displayed in the upper left corner of the screen. Every card moved from the discard stack or the new card stack to the lower stacks scores 5. Every card moved to the upper scoring stacks counts 10. Moving a card from the upper scoring stacks to the lower stacks counts -10. Refreshing the *new card stack* from the *discard stack* reduces the score by 100. However the score never becomes negative.

Announcements

Announcements appear at the top of the screen when appropriate. For example, in the illustration above, the last move attempted was invalid and "Invalid Move" appears as an announcement.

Hidden Cards

The number at the top of each stack shows the number of card hidden beneath the bottom visible card.

Buttons

Buttons to control the game appear at the bottom of the screen.

New Game

Pressing this button updates the statistics file with the results of the last game and starts a new game.

Restart Game

Pressing this button sets the card stacks back to their original state. It does not update the statistics file.

Save & Quit

Pressing this button will save the present state of the game and quit. This closes the game window. It does not update the statistics file.

Un Do

Pressing this button reverses the last move. Typing *ctrl-z* does the same thing.

Auto Play

Pressing this button causes the computer to search for and make valid moves that move cards to the upper scoring stacks.

Display Statistics

Shows a display similar to the illustration below.

The *High Score* is the highest score achieved.

The *Number of Victories* is the number of games played that resulted in a victory.

The *Number of Games Played* is the number of games played.

The *Proportion of Victories* is the number of victories divided by the number of games played.

The *Standard Deviation* is computed as follows: If p is the proportion of victories and n is the number of games played then the standard deviation is $\sqrt{p(1-p)/n}$. This is appropriate for a binary distribution where p is the constant probability of victory and n is the number of attempts to achieve victory. Assuming that your method of play is consistent, the standard deviation gives a measure of the amount that the proportion of victories is likely to vary as more games are played.

Instructions.pdf
Pressing this button brings up this file of instructions.

Downloading Solitaire

You may have to adjust your security settings to download this version of solitaire. Solitaire is written in JAVA and requires your computer to have JAVA installed before it can run. Windows based computers come with JAVA installed. Mac computers may not have JAVA installed. You can install JAVA from the https://java.com/en/download/ website.

To download solitaire from https://github.com/BobRekl
1) Open "solitaire" by clicking on it.
2) Press "Clone or Download". In the popup menu that opens press "Download zip".
3) In your computer's "Downloads" folder extract the files from "solitaire-master.zip".
4) Open "solitaire-master" and copy the enclosed "solitaire" folder.
5) Paste "solitaire" somewhere convenient in your computer's file system.
6) To play solitaire double click on the "Solitaire.jar" file in the "solitaire" folder
or make a shortcut to it and click on it.
7) In Windows you can change the icon on the shortcut. Use the icon in the "icon.ico" file. Right click on your shortcut and open "Properties". Click on "Change Icon". Navigate to the "icon.ico" file and select it.

Source code is available in solitaireSrc in the form of a "NetBeans" project.