

Java Game: Reversi

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Description

Reversi is a graphical Java 1.1 AWT (GUI) applet to play the board game of Reversi, also known as Othello. The playing board is a rectangular grid. Your positions are shown as black circles. Positions occupied by the computer are shown in white. You move first. A legal move is any empty position that traps one or more of the computer's positions in a straight line (horizontal, vertical, or diagonal) between the empty position and another of your positions. The trapped positions are then "flipped" (reversed) and become your positions. To help you, legal moves are highlighted when you hold the mouse over an empty position. If you can't move, then you lose your turn and the computer moves next. The game ends when nobody can move. The player with the most occupied positions is the winner. You may run this program as a stand-alone application, or as an applet on the following web page:

Reversi or Othello Game - by: Keith Fenske
<http://www.psc-consulting.ca/fenske/revers2a.htm>

You can change the size of the game board. The number of rows and columns may be changed independently. The standard size is 8×8. You may also select "easy" or "medium" difficulty. On "easy" play, the computer moves randomly. On "medium" play, the computer flips the maximum number of positions. A more difficult level has not been implemented. This would require hundreds or thousands of lines of additional code to develop a better strategy. The extra code would detract from this game's primary purpose, which is to demonstrate graphical Java programming. Should you feel like doing the work, the program does contain hooks for two additional levels called "hard" and "expert".

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Public License for more details. You should have received a copy of the GNU General Public License along with this program. If not, see the <http://www.gnu.org/licenses/> web page.

Installation

You must have the Java run-time environment (JRE) installed on your computer. Reversi was developed with Java 1.4 and compiled for Java 1.1, so it should run on all later versions. For Macintosh computers, the version of Java is determined by your version of MacOS. For Windows, Linux, and Solaris, you can download the JRE from Sun Microsystems:

Sun Java

JRE for end users: <http://www.java.com/getjava/>

SDK for programmers: <http://developers.sun.com/downloads/>

IDE for programmers: <http://www.netbeans.org/>

Once Java is installed, you need to put the program files for Reversi into a folder (directory) on your hard drive. The name of the folder and the location are your choice, except it is easier if the name does not include spaces. Assume that files will go into a C:\JAVA folder. Then create the folder and unpack the Java *.class files into this folder (if you received the program as a ZIP file). The files look something like this:

- ffcccc.gif (1 KB, web page background, name must be lowercase)
- GnuPublicLicense3.txt (35 KB, legal notice)
- make-revers2.bat (1 KB, compiles as Java 1.1 using Java 1.4 SDK)
- revers2a.htm (4 KB, applet web page, external links don't work)
- revers2b.jar (10 KB, applet archive file, name must be lowercase)
- revers2c.txt (67 KB, same source code as text for web page)
- Reversi2.class (15 KB, executable program)
- Reversi2.doc (32 KB, this documentation in Microsoft Word format)
- Reversi2.gif (12 KB, sample program image)
- Reversi2.java (65 KB, source code)
- Reversi2.manifest (1 KB, main class manifest for archive file)
- Reversi2.pdf (71 KB, this documentation in Adobe Acrobat format)
- Reversi2Board.class (2 KB, helper class for main program)
- Reversi2Window.class (1 KB)
- RunJavaPrograms.pdf (60 KB, more notes about running Java)

To run the program on Windows, start a DOS command prompt, which is Start button, Programs, Accessories, Command Prompt on Windows 2000/XP. Change to the folder with the program files and run the program with a "java" command:

c:

```
cd \java
java Reversi2
```

The program name “Reversi2” must appear exactly as shown; uppercase and lowercase letters are different in Java names. Should you find this program to be popular, you can create a Start menu item or desktop shortcut on Windows 2000/XP with a target of “java Reversi2” starting in the “c:\java” folder. One complication may arise when trying to run this program. Java looks for an environment variable called CLASSPATH. If it finds this variable, then that is a list of folders where it looks for *.class files. It won’t look anywhere else, not even in the current directory, unless the path contains “.” as one of the choices. The symptom is an error message that says:

```
Exception in thread "main" java.lang.NoClassDefFoundError: Reversi2
```

To find out if your system has a CLASSPATH variable defined, type the following command in a DOS window:

```
set CLASSPATH
```

To temporarily change the CLASSPATH variable to the current directory, use the following command line:

```
java -cp . Reversi2
```

To permanently change the CLASSPATH, you must find where it is being set. This may be in an old AUTOEXEC.* file in the root directory of your system disk (usually the C:\ folder), or it may be in Control Panel, System, Advanced, Environment Variables on Windows 2000/XP.

Removal or Uninstall

To remove this program from your computer, delete the installation files listed above. If the folder that contained the files is now empty, you may also delete the folder ... if you created the folder, of course, not the system. If you created desktop shortcuts or Start menu items, then delete those too. There are no configuration or preference files, and no information is stored in the Windows system registry. You don’t need an “uninstall” program.

Restrictions and Limitations

“Othello” is a registered trademark. Since 1976 in the United States, the legal owner is Tsukuda Co. Ltd. of Japan, assigned to Anjar Co. in New York. Mattel Inc. once held a trademark for “Reversi” as a video game but that expired in 1989. There is no current trademark in the United States for “Reversi” as a board game.

Web page applets are obsolete and may run as stand-alone applications with the help of a wrapper (included), although this becomes less likely after Java 9 (2017). Rewriting for Java Swing or newer JavaFX is not an easy job.

file: Reversi2.doc 2019-03-30