# Java Application: SortFatFolder

Written by: Keith Fenske, http://kwfenske.github.io/
First version: Tuesday, 12 September 2017
Document revised: Wednesday, 20 September 2017
Copyright © 2017 by Keith Fenske.  Apache License or GNU General Public License.

## Description

SortFatFolder is a Java 1.4 application to sort the directory entries for a FAT16 or FAT32 file folder.  Unlike newer file systems (NTFS), the FAT file system does not keep directories in alphabetical order.  This is hidden from the user by most graphical interfaces, but becomes important on some types of distribution media, e.g., USB thumb drives.

A new folder is created, in the same parent folder as a user's given folder, and entries (files and subfolders) are moved to the new folder, one at a time, in the desired order.  The old folder, which will now be empty, is deleted.  The new folder is renamed the same as the old folder, and will likely be out of order in the parent folder.  (There are limits on how much cleaning can be done, even manually.)

DO NOT USE THIS PROGRAM ON SYSTEM FOLDERS.  The only safe folders are those you create with your own files and no hidden or system files.  The program has no purpose on any file system that maintains an internal sorted order.

You can't sort root directories with this program, as there is no parent folder.  No application can have any of the files, folders, or subfolders open (locked).  Windows Vista/7 or later may complain if you move, rename, or delete a shared folder.  Some anti-virus products interfere with rapid file activity.  After sorting, folders and subfolders lose special attributes (hidden, read-only, system) and may lose metadata such as sharing, since folders are recreated as new.  Files will have the "archive" attribute set; they won't lose other attributes or metadata.

## Apache License or GNU General Public License

SortFatFolder is free software and has been released under the terms and conditions of the Apache License (version 2.0 or later) and/or the GNU General Public License (GPL, version 2 or later).  This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the license(s) for more details.  You should have received a copy of the licenses along with this program.  If not, see the http://www.apache.org/licenses/ and http://www.gnu.org/licenses/ web pages.

# Installation

You must have the Java run-time environment (JRE) installed on your computer. SortFatFolder was developed with Java 1.4 and should run on later versions. It may also run on earlier versions, but this has not been tested. You can download the JRE from Oracle (formerly Sun Microsystems):

> JRE for end users: http://www.java.com/getjava/
> SDK for programmers: http://www.oracle.com/technetwork/java/
> IDE for programmers: http://www.netbeans.org/

Once Java is installed, you need to put the program files for SortFatFolder 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:

> ApacheLicense20.txt  (12 KB, legal notice)
> GnuPublicLicense3.txt  (35 KB, legal notice)
> RunJavaPrograms.pdf  (60 KB, more notes about running Java)
> SortFatFolder2.class  (19 KB, executable program)
> SortFatFolder2.doc  (32 KB, this documentation in Microsoft Word format)
> SortFatFolder2.gif  (17 KB, sample program image)
> SortFatFolder2.ico  (87 KB, icon for Windows)
> SortFatFolder2.jar  (12 KB, archive file with same class files inside)
> SortFatFolder2.java  (53 KB, source code)
> SortFatFolder2.manifest  (1 KB, main class manifest for archive file)
> SortFatFolder2.pdf  (70 KB, this documentation in Adobe Acrobat format)
> SortFatFolder2User.class  (1 KB, helper class for main program)

To run the program on Windows, start a DOS command prompt, which is Start button, Programs, Accessories, Command Prompt on Windows XP/Vista/7. Change to the folder with the program files and run the program with a "java" command:

```
c:
cd \java
java  SortFatFolder2
```

The program name "SortFatFolder2" must appear exactly as shown; uppercase and lowercase letters are different in Java names. Some systems (Macintosh) will run a main "class" file by clicking on the class file name while viewing a directory in the file browser (Mac Finder). Many systems will run a "jar" file by clicking (or double clicking) on the jar file name (Windows

Explorer).  The command line is the only guaranteed way of running a Java program.  Should you find this program to be popular, you can create a Start menu item or desktop shortcut on Windows XP/Vista/7 with a target of "java.exe SortFatFolder2" 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: SortFatFolder2
```

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 . SortFatFolder2
```

To permanently change the CLASSPATH, you must find where it is being set.  This is in Control Panel, System, Advanced, Environment Variables on Windows XP/Vista/7.

## 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 hidden configuration or preference files, and no information is stored in the Windows system registry.  You don't need an "uninstall" program.

## Graphical Versus Console Application

The Java command line may contain options or folder names.  If no folder names are given on the command line, then this program runs as a graphical or "GUI" application with the usual dialog boxes and windows.  See the "-?" option for a help summary:

```
java SortFatFolder2 -?
```

The command line has more options than are visible in the graphical interface.  An option such as -u14 or -u16 is recommended because the default Java font is too small.  If folder names are given on the command line, then this program runs as a console application without a graphical

interface.  A generated report is written on standard output, and may be redirected with the ">" or "1>" operators.  (Standard error may be redirected with the "2>" operator.)  An example command line is:

```
java SortFatFolder2 -s d:\temp >report.txt
```

The console application will return an exit status of 1 for success, –1 for failure, and 0 for unknown.