CS209 – Assignment2

Description

Please write a program named "FilesManager" that can manage files. The program will read two arguments(args[0] and args[1]) from command line.
Input:
args [0]: file name or directory name
args [1]: Task no.

Output: depends the Task no.
You are asked to do the following tasks:

Task no.1: recursively find out how many files the args[0] contains and output the files count.

Task no.2: calculate how much space the args[0] occupies and output the total size(unit: k).

Task no.3: find out all files which size are bigger than 1000,000 bytes and output their file name.(One line one file name.)

Task no.4: categorize files by extension, statistic the files count according different extension.(One line one extension information. Format: extension+", "+count. if a file has no extension, just consider its extension as "".)

Just use System.out.println() or printf to output your result.

Here is a sample folder named **Files**:

▼ 📁 Files
   ▼ 📁 PPTMaterial
      ▶ 📁 【69】精美实用PNG图标库
      📄 Y1901 精美实用PNG图标库.rar
      📄 Y1901 素材源文件.rar
      📄 Y1901 精品实用矢量素材.rar
      📄 Y1901 PPT常用必备素材合集.rar
      📄 Y1901 2012第1季新增PNG图库-12000枚.rar
   ▶ 📁 【55】3D小人集
      📄 Y1901 3D小人集.rar
   ▶ 📁 【70】2012第1季新增PNG图库-12000枚
   ▼ 📁 images
      🖼 2021554697547_.pic.jpg
      🖼 2021554697547_.pic_hd.jpg
      🖼 2011554697537_.pic.jpg
      🖼 2011554697537_.pic_hd.jpg
      🖼 2001554697530_.pic.jpg
      🖼 2001554697530_.pic_hd.jpg
      🖼 1991554697522_.pic.jpg
      🖼 1991554697522_.pic_hd.jpg
      🖼 2021554697547_.pic_thumb.jpg
      🖼 1981554697512_.pic.jpg
      🖼 1981554697512_.pic_hd.jpg
      🖼 2011554697537_.pic_thumb.jpg
      🖼 1971554697504_.pic.jpg
      🖼 1971554697504_.pic_hd.jpg
      🖼 2001554697530_.pic_thumb.jpg
      🖼 1961554697497_.pic.jpg
      🖼 1961554697497_.pic_hd.jpg
      🖼 1991554697522_.pic_thumb.jpg
      🖼 1951554697489_.pic.jpg
      🖼 1951554697489_.pic_hd.jpg

If run the command:

```
java    FilesManager    Files    1
```

The output should be like this:

```
32239
```

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If run the command:

```
java   FilesManager   Files   2
```

The output should be like this:

```
2691862k
```

If run the command:

```
java   FilesManager   Files   3
```

The output should be like this:

```
Files/PPTMaterial/Y1901 精品实用矢量素材.rar
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/白板 34.jpg
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/白板 35.jpg
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/白板 36.jpg
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/坐在问号足球上的 3D 小人高清图片.jpg
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/抱着小孩的 3D 小人高清图片-2.jpg
Files/PPTMaterial/【55】3D 小人集/3D 小人图片素材/抱着红心的 3D 小人高清图片.jpg
Files/PPTMaterial/【55】3D 小人集/史上最全 3d 小人/3D 小人-医疗系列.ppt
Files/PPTMaterial/【55】3D 小人集/史上最全 3d 小人/3D 小人-绿色系列.ppt
Files/PPTMaterial/【55】3D 小人集/史上最全 3d 小人/3D 小人-目标类-问号类系列.ppt
Files/PPTMaterial/【55】3D 小人集/史上最全 3d 小人/3D 小人-运动系列.pptx
Files/PPTMaterial/【55】3D 小人集/史上最全 3d 小人/3D 小人 375 张.ppt
Files/PPTMaterial/【55】3D 小人集/彩底 3D 小人/彩色立体小人（89）.jpg
Files/PPTMaterial/【55】3D 小人集/彩底 3D 小人/彩色立体小人（48）.jpg
Files/PPTMaterial/【69】精美实用 PNG 图标库/感叹号透明矢量 PNG 素材 29 个/感叹号（1）.jpg
Files/PPTMaterial/【69】精美实用 PNG 图标库/PNG 图标/filetype-09.psd
Files/PPTMaterial/【69】精美实用 PNG 图标库/《2》高品质 PNG 图标新增/shutterstock_57047737.jpg
Files/PPTMaterial/Y1901 PPT 常用必备素材合集.rar
Files/PPTMaterial/Y1901 2012 第 1 季新增 PNG 图库-12000 枚.rar
Files/PPTMaterial/Y1901 3D 小人集.rar
Files/PPTMaterial/Y1901 精美实用 PNG 图标库.rar
Files/PPTMaterial/Y1901 素材源文件.rar
Files/images/1901554697450_.pic_hd.jpg
Files/images/1881554697436_.pic_hd.jpg
Files/images/2021554697547_.pic_hd.jpg
Files/images/1911554697457_.pic_hd.jpg
Files/images/1931554697475_.pic_hd.jpg
Files/images/1971554697504_.pic_hd.jpg
Files/images/2001554697530_.pic_hd.jpg
Files/images/1871554697429_.pic_hd.jpg
Files/images/1861554697421_.pic_hd.jpg
Files/images/1951554697489_.pic_hd.jpg
Files/images/1891554697443_.pic_hd.jpg
Files/images/1991554697522_.pic_hd.jpg
Files/images/1961554697497_.pic_hd.jpg
Files/images/1981554697512_.pic_hd.jpg
Files/images/2011554697537_.pic_hd.jpg
Files/images/1941554697482_.pic_hd.jpg
```

If run the command:

```
java   FilesManager   Files   4
```

The output should be like this:

```
,5
.html,1
.gif,9
.rar,6
.psd,1
.JPG,47
.jpg,1110
.PNG,131
.png,30895
.pptx,1
.ppt,10
.ico,16
.txt,2
.DS_Store,5
```

VERY IMPORTANT (FOR THIS LAB AND THE NEXT ONES!)

We try in this course to have assignment submissions graded by scripts whenever possible. Those scripts use techniques frequently used in professional software development: they run a series of tests and check whether the program passes or fails each test. For every assignment, we'll try to crash your program or make it misbehave. Every failed test will mean points off. The assignment description specifies which tests will be run, so that you can check your program thoroughly before submitting it.

It's very important:

  1. That you respect what is specified in the assignment, naming, input and output (no additional message, just the required result), otherwise it will be understood as a wrong result by the script.

  2. That you check that your program behaves well - no Java stack dump - for all the test cases.

Rules:

1. Please submit ".java" file. (upload it to Sakai)

2. The name of the ".java" file should be FilesManager.java

3. No Chinese characters include.

4. No package include.

5. The arguments and the output must be followed the description of each questions.

6. Your program compiles correctly (javac)

7. The result is obtained in a reasonable time.

8. Your program isn't the same as someone else's

9. Please do not submit later than the deadline. (before 17:00, 24th April)

All above will be tested when grading your program.

DO NOT COPY!! We will check carefully!!