

Multithreading Assignment

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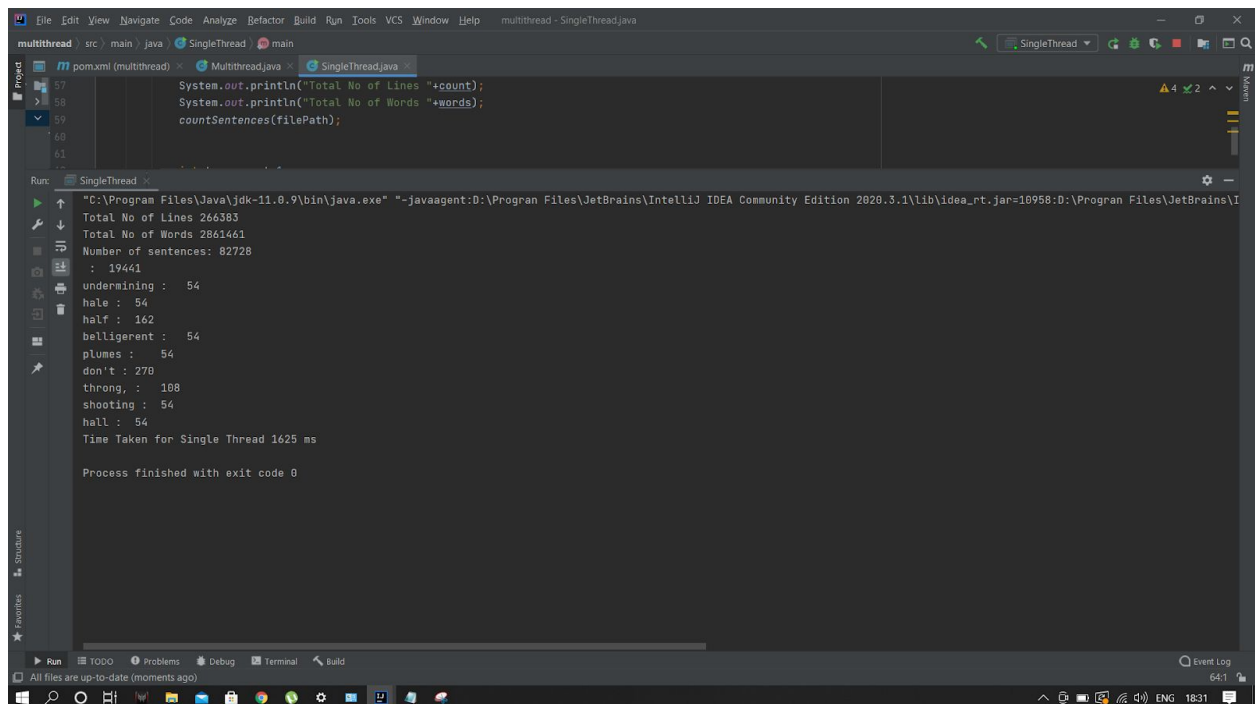
Analyze the book using a java program and perform a word count operation.

You have to find out the count of each word in the book.

Along with words, you also need to find out the number of paragraphs and sentences present in the book.

Try it using single threading program and repeat the same through multi-threading approach.

Single Threaded



The screenshot displays an IDE window titled "multithread - SingleThread.java". The code in the editor is as follows:

```
57 System.out.println("Total No of Lines "+count);
58 System.out.println("Total No of Words "+words);
59 countSentences(filePath);
60
61
```

The Run window shows the output of the program:

```
"C:\Program Files\Java\jdk-11.0.9\bin\java.exe" "-javaagent:D:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3.1\lib\idea_rt.jar=10958:D:\Program Files\JetBrains\I
Total No of Lines 266383
Total No of Words 2861461
Number of sentences: 82728
: 19441
undermining : 54
hale : 54
half : 162
belligerent : 54
plumes : 54
don't : 270
throng, : 108
shooting : 54
hall : 54
Time Taken for Single Thread 1625 ms
Process finished with exit code 0
```

The IDE interface includes a menu bar (File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, Help), a toolbar, and a status bar at the bottom showing "All files are up-to-date (moments ago)" and the system clock "6:41".

Multi Threaded

```
122  
123     countParagraphsThread.start();  
124     // countParagraphsThread.join();  
125
```

Run: Multithread

```
"C:\Program Files\Java\jdk-11.0.9\bin\java.exe" "-javaagent:D:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3.1\lib\idea_rt.jar=10941:D:\Program Files\JetBrains\I  
Number of Lines: 266393  
Number of sentences: 82728  
Total No of Words 2861461  
undermining : 54  
hale : 54  
half : 162  
belligerent : 54  
plumes : 54  
don't : 270  
throng, : 108  
shooting : 54  
hall : 54  
whipped, : 54  
care-worn : 54  
Time Taken for MultiThread 1175 ms  
  
Process finished with exit code 0
```

Execution Difference Between Single Thread vs Multithread

Time Taken for Single Thread 1625 ms

Time Taken for MultiThread 1175 ms

450 ms Faster