CPW 245 Winter 2020 Homework Assignment 2

This assignment will reinforce your understanding of **`Stack`**s.

The starter code, **`DirectorySize.java`**, gives a recursive method for finding a directory size. Add a method that accomplishes the same task without using recursion. Your method, **`getSizeStack`**, should use a **`Stack`** to store the subdirectories under a directory. The algorithm can be described as follows:

```
long getSizeStack( File directory ) {

    instantiate a stack of File;
    long size = 0;
    add directory to the stack;

    while ( stack not empty ) {
        remove an item from the stack into temp
        if ( temp is a file ) {
            size += temp.length;
        }
        else {
            add all the files and subdirectories
                under temp into the stack;
        }
    }
    return size;
}
```

Submit your **`DirectorySize.java`** to Canvas.

Extra Credit(10%) Write another version, **`getSizeQueue`**, using a **`Queue`** instead of a **`Stack`**.

Expected Output:
Put your code in a folder along with the test data, **`test_folder`**. If you run the starter code as is, you should be able to get these result:

```
Enter a directory or file: .
1057257 bytes
1057257 bytes
1057257 bytes
```

```
Enter a directory or file: ./DirectorySize.java
2320 bytes
2320 bytes
2320 bytes
```

After modification, the number of bytes will be slightly different depending on how much code you wrote.