

---

**CS 251: [Basic Java]: Numbers, and Input-Output**

- Handed out: 9/28 Due: 9/28 4:40 PM
- Please write (only if true) the honor code. If you used any source (person or thing) explicitly state it. You can find the honor code on the web page.

## Overview

Java is the world's #1 programming language (so says Oracle :) Java is characterized by the buzzwords: Simple, Object oriented, Distributed, Multithreaded, Dynamic, Architecture neutral, Portable, High performance, Robust, and Secure. The official language for Android development is Java. For more information on learning Java, visit <http://docs.oracle.com/javase/tutorial/tutorialLearningPaths.html> The goal of this lab is to learn a tiny aspect of Java. We will do Java IDE in a subsequent lab.

## Pretasks

Make sure your previous (submitted) labs are linked up. Also make sure you have read the outlab!

## Tasks

1. **[Input,Output:]** Write a Java program `OutputLines.java` which takes a file(name) as an input from the standard input, reads the file line by line, and prints each line with its line number.

Example:

```
1: First line here
2: Second line here
```

Java has a variety of ways to perform io. It can get maddening. Use the `BufferedReader` and `FileReader` class. If, for some reason, the file cannot be read, print the error message

```
Could not read the file. Sorry.
```

2. **[Big integers:]** For a given number  $m$ , let  $F(m)$  be the smallest integer  $n$  such that  $n!$  is divisible by  $(m!)^{1234}$

Write a Java program `FactorialDivisor.java` that prints the value of  $\sum_{1 \leq m \leq 10} F(m)$  on the standard output.

## Submission Guidelines:

Submit `OutputLines.java` and `FactorialDivisor.java` files. Do not forget to put `readme.txt` file in a folder. The folder and its compressed version should both be named `lab08_groupXY_final`. Hence, you submit a tar.gz named `lab08_group07_final.tar.gz` if your group number is 7.

## How We will Grade You

- Honor Code and package complete in all respects +2. **Incorrect or incomplete -2.**
- Marks corresponding to all the question is given along with the question itself.