READ THIS FIRST:

Do your best to do every item on your own; if you cannot immediately do an item, go on to others and then come back to it later. Please check the resources section if you have any problems and talk with your professor if there are any further questions.

Due: Tuesday, February 7, 2017.

Goals:

- Practice getting around the command line compiling and running Java programs.
- Practice getting around in and using GitHub.
- Explain some key concepts we covered in class:
  - Selections
  - Mathematical Functions
  - Characters
  - Strings
- Get some more easy lab points.

Instructions:

1. Programming. From your textbook (Liang), write Java programs that solve the following problems using if statements, two-way if-else statements, or nested if and multiway if-else statements as appropriate:
   - Problem 3.4
   - Problem 3.8

   For the following, you must use switch statements:
   - Problem 3.11
   - Problem 3.15

   Using the mathematical functions in the Math class solve the following:
   - Problem 4.1
   - Problem 4.5

   Using what you read and learned about Characters and Strings, do the following problems:
   - Problem 4.8
   - Problem 4.10
2. **Programming.** Make a program that calculates the percentage total grade of a student in this class and then outputs the corresponding letter grade. The program will ask for a percentage (0 – 100%) corresponding to each of the four rubrics in this course and will calculate the total final grade for the student, then, based on the grading policy for this class (here [http://www.reev.us/cmpt220s17t/](http://www.reev.us/cmpt220s17t/)) you will output the corresponding letter grade.

Here is a sample run:

```
Please enter the following as percentage...
midterm exam: 100
final exam: 100
projects: 100
homework and labs: 100
Your final grade is: A
```

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**Resources:**

- Your textbook (Liang)!
- Project submission guidelines for this course: [www.reev.us/cmpt220s17t/project_submission.html](http://www.reev.us/cmpt220s17t/project_submission.html)
- Coding style guidelines for this course: [www.reev.us/cmpt220s17t/style.html](http://www.reev.us/cmpt220s17t/style.html)
- “How to” use the command line “shell”: [www.reev.us/cmpt220s17t/shell.html](http://www.reev.us/cmpt220s17t/shell.html)
- The official Java reference: [http://docs.oracle.com/javase/tutorial/collections/TOC.html](http://docs.oracle.com/javase/tutorial/collections/TOC.html)
- Stack Overflow Java Tag: [http://stackoverflow.com/questions/tagged/java](http://stackoverflow.com/questions/tagged/java)

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**Submission:**

- Push your work to your GitHub repository before the due date (see the top of this document). Remember to include your name, the date, and the assignment in the (copious, meaningful, and accurate) commit messages. Then double check your files are on GitHub and that your professor has been added as a collaborator (you hopefully did this in Homework 0), his GitHub username is pablorp80.
- Make sure all your programs (*.java) are in a folder called labs/2/ inside your repository folder.