Homework (Loop)

1. Olympic Time Trials.
Write a script (goOlympic.sh) to determine if you will qualify for the Olympic team. Prompt the user to specify the name and assign it to a variable. Verify that the name is not blank. Input five trial times. For example, let the times for Carl be 12.2, 11.8, 12.5, 10.9, and 11.1 seconds. Compute the average of those five times. For every person who tries, compute the average of the trials. If the average is less than or equal to 11.5 seconds, print the name and a message to say "Welcome to the team." If the time is more than 11.5 seconds, the message should read "Close, but you did not make the cut." Test your script with the data for three runners as:

$ goOlympic.sh Carlos 9.6 10.6 11.2 10.3 11.5
Welcome Carlos to the team.

$ goOlympic.sh Liu 10.6 11.2 9.4 12.3 10.1
Welcome Liu to the team.

$ goOlympic.sh Timothy 12.2 11.8 12.5 10.9 11.1
Close, but Timothy did not make the cut.

2. Write a script to print the contents of specified directory in the form of a tree. Use the following format (example from my home directory on delmar):

```
|-------Makefile
|-------abc
|-------abecd
|       |-------foobar
|-------bin
|       |-------handin
|       |-------handin.c
|-------c
|       |-------mem.c
|       |-------str_print
|       |-------str_print.c
|-------ch.c
|-------foobar
|-------fubar
|-------git
|       |------project
|       |      |-------file1
|       |      |-------hello.c
|-------hello.c
```

Call your script dirtree. Start the tree in the current directory if no parameter is specified. If a parameter is given, start the tree at that directory.

3. Write a script to perform bubblesort on an array. You will be a given a set of integers in a file. Read in the file into an array, sort the array, and write it back into another file. If the input file is named foobar, name the output file foobar.sorted.
https://www.geeksforgeeks.org/bubble-sort/