CS 221 C and System Programming
Assignment 7

Due date: November 16, 2015
Submit your `zip` file to `Canvas` before 11:59 p.m. on the due date.

1 `PATH` Variable (40 marks)

a. Set the `PATH` variable so that it causes the shell to search the following directories in order:

- `/usr/local/bin`
- `/usr/bin`
- `/bin`
- `/usr/sbin`
- The bin directory in your home directory
- The current working directory

b. If there is a file named `doit` in `/usr/bin` and another file with the same name in your `/bin` directory, which one will be executed? (Assume that you have execute permission for both files.)

c. If your `PATH` variable is not set to search the working directory, how can you execute a program located there?

d. Which command can you use to add the directory `/usr/games` to the end of the list of directories in `PATH`?

2 File Related Commands (30 marks)

Given a file named `phones.txt` that contains a list of names and phone numbers,

a. Which command can you use to find the phone number for `Ace Electronics`;

b. Which command can you use to display the entire file in alphabetical order?

c. Which command can you use to display the file without any adjacent duplicate lines?

3 Permissions (30 marks)

Suppose a user belongs to a group that has all permissions on a file named `jobsList`, but the user, as the owner of the file, has no permissions.

a. Describe which operations, if any, the user/owner can perform on `jobsList`.

b. Which command can change the permissions such that the user/owner has all permissions on the file?

c. Which command can change the permissions such that the user/owner has all permissions on the file while other members in the same group can only read `jobsList`?

Submission Information

Type your solutions to a file names `ass7.txt` and Zip the file to `ass7.zip`. Submit `ass7.zip` to Canvas.