Important: Please do all assignments on `hoare`

Unix System Calls and Library Functions

The goal of this homework is to become familiar with the environment in hoare while practising system calls. I'll like to see the use of `perror` and `getopt` in this submission. Do Exercise 3.8 (p. 87) in your text by Robbins/Robbins.

The exercise expands on the process chain of Program 3.1 in the book. So, you will need to study that code well. The *process chain* is a vehicle to experiment with `wait(2)` and with sharing of devices. All of the processes in the chain created by Program 3.1 share `stdin`, `stdout`, and `stderr`.

Your program should give some meaningful error messages. The format for error messages should be:

```
my_prog: Error: Detailed error message
```

where `my_prog` is actually the name of the executable (`argv[0]`) that you are trying to execute.

What to handin

Handin an electronic copy of all the sources, README, Makefile(s), and results. Create your programs in a directory called *username*.5 where *username* is your login name on hoare. Once you are done with everything, *remove the executables and object files*, and issue the following commands:

```
chmod 700 username.1

cp -p -r username.1 ~hauschild/cs4760/assignment1
```

Include the answers or comments to all the questions (1-8) in a file called Answers (make sure the case is correct).

Do not forget `Makefile` (with suffix or pattern rules), `RCS`, and `README` for the assignment. If you do not use `RCS` or github, you will lose 10 points. I want to see the log of how the program files are modified. Therefore, you should use keyword substitution within RCS inside your source files. I'll like to see at least the use of Author, Date, and Log keywords. You must check in the files at least once a day while you are working on them. Omission of a `Makefile` (with suffix rules) will result in a loss of another 10 points, while `README` will cost you 5 points. I do not like to see any extensions on `Makefile` and `README` files. Before the final submission, perform a `make clean` and keep the latest source checked out in your directory.

You do not have to hand in a hard copy of the project. Assignment is due by 11:59pm on the due date.