CS350 Lab1

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Problem Statement

- Implement a program which executes any command given as argument

  ./process <COMMAND NAME>

- Example commands

```
./process ls

./process gcc fib.c -o fib
./process wget <link>
        – wget downloads file at <link>
```

Suggested Approach

Parent

- Forks a child
- Wait for child to complete
- Terminate

Child

- Execute command

Requirements

- If you finish lab, then submit to blackboard

- Parent must not terminate before child.
- Parent must wait for child to exit. No zombie processes
- Child process must execute command, not parent
- Syscall Error checking
  - fork()
    - Check the return value of fork() to distinguish between parent and child.
    - Don't forget to check for error conditions
  - exec()
  - Error check any other system calls used

Optional Activity

- Implement parallel downloader program using fork() and wget()
  - Have X number of URLs to download from
  - Have parent fork off X children
  - Have each child process download from one of the URLs
  - Have parent wait for X children to finish
  - Terminate parent

Submitting Your Lab

- Put all code into a folder named <userid>_lab1.
  - Example: dchan20_lab1/
- Create a compressed tarball
  - Example: tar -cvzf dchan20_lab1.tar dchan20_lab1/
- Submit tarball to lab 1 submission link on blackboard

Stuck?

- Read man pages
  - Example: man fork
- Look on Google
- Ask for help from TA