

Assignment – 01

Instructions:

1. Read the question carefully before beginning.
2. The assignment is to be solved individually.
3. Send an email to the TA and CC the class instructor, with the code file given in the following pattern:
 - a. *RegNo-Parent.c*
 - b. *RegNo-Child.c*
4. The subject of your email must be in the following pattern:
 - a. CS311B – Assignment 01 – *RegNo*

Q1. You are to code two programs. Parent and Child.

- 1) The parent will be given names of two files as arguments.
- 2) A single child process will be created via fork and exec and will perform a character-by-character comparison of the data inside these two files to determine whether these are the same files or not. *Hint: Note that there is no code sharing between child and parent.*
- 3) The child process will return an exit code back to the parent process, defined as follows:
 - a. 0: Both files are same
 - b. 1: Both files are different
 - c. 2: Error opening files
- 4) You are to handle the situation where the child process may terminate abnormally.

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- 5) You are to handle the situation where the file names are exactly the same (you can use strcmp function from string.h library).
- 6) The parent process will wait for the child process to finish, before displaying the outputs as described in 3). Display both the error code and the text.
 - a. The output from the parent should be in the following manner:

Starting Parent Process with pid: *parentpid*

Filenames received: *file1 file2*

Child Process created with pid: *childpid*

ErrorCode: file1 and file2 are same, file length: numofchars

OR

ErrorCode: file1 and file2 are different, file1: numofchars, file2: numofchars

OR

ErrorCode: Error opening files/same filenames

*Hint: **getpid()** function returns the pid of the process calling this function. Please refer to the extra slides on the google classroom for reference.*