

For the following questions you will need to download, compile, and execute a small program in your virtual environment:

1. Type the following command into the terminal window to pull the project repository from GitLab [Note: If you are not on campus, you will need to [connect to the UNC Charlotte VPN](#)
2. [Links to an external site.](#)
3.]:
git clone https://cci-git.charlotte.edu/jbahamon/ITSC_3146_Processes.git
4. [Links to an external site.](#)
5. Change directory into the newly created directory (folder) named ITSC_3146_Processes.
6. Issue the following command to compile the code:
g++ process-fork-1.cpp -o p1
7. Issue the following command to execute the program:
./p1

Note: Copy, paste, and modify all necessary commands from this [Git command snippet page](#)

[Links to an external site.](#)

. This will strip out any special characters.

1. What is the **exact text in the first line** printed by the program?
2. What is the **exact text in the second line** printed by the program?
3. Use the editor in your virtual environment to find the source code for the program that you just compiled and executed. Briefly describe the following:
 - a. The purpose of the code on line 19, i.e., what does this line of code accomplish?
 - b. The purpose of the code on lines 21-27 (if statement). Make sure to explain each possibility handled by the if.

4. Which of the following code snippets correctly displays the message shown below in the child process only?

Retrieving file...

Processing contents...

Version One:

```
if(id == -1) {  
    std::cout << "Error creating process\n";  
} else if (id == 0) {  
    std::cout << "Retrieving file...\n";  
    std::cout << "Processing contents...\n";  
} else {  
    std::cout << "I just became a parent!\n";  
}
```

Version Two:

```
if(id == -1) {  
    std::cout << "Error creating process\n";  
} else if (id != 0) {  
    std::cout << "Retrieving file...\n";  
    std::cout << "Processing contents...\n";  
} else {  
    std::cout << "I just became a parent!\n";  
}
```

5. Examine the code in process-fork-1.cpp. What is the value returned by the call to the fork() function if an error occurs and the OS is unable to create a child process?