

Lab Tasks

By

Hajira Imran(44594)



Submitted to: Ma'am Kausar

Subject: Operating System

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BSCS SEMESTER – 5

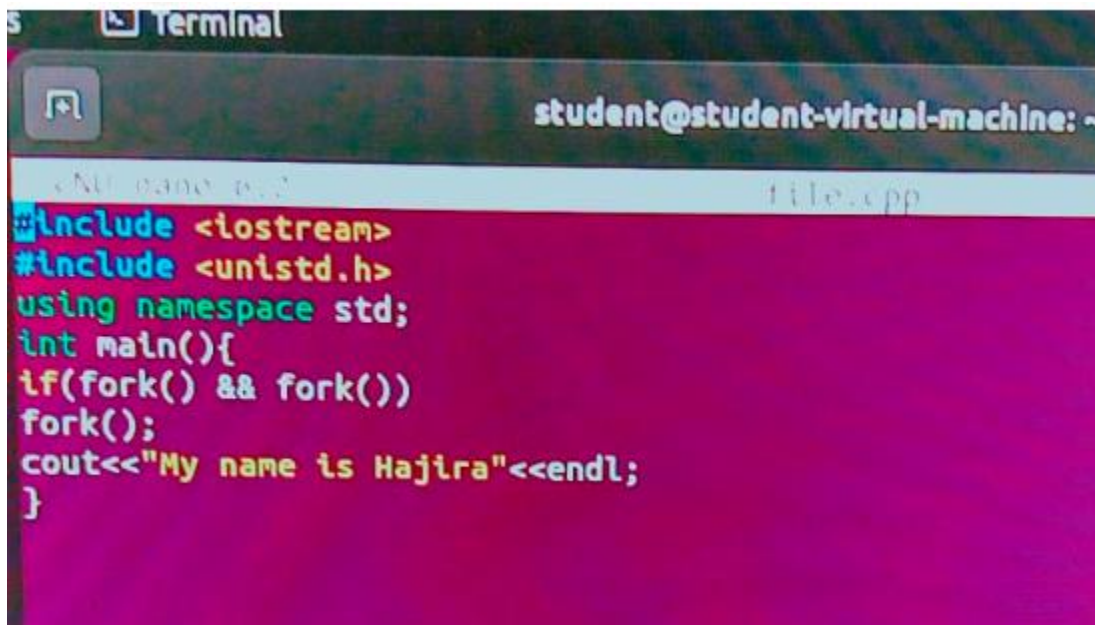
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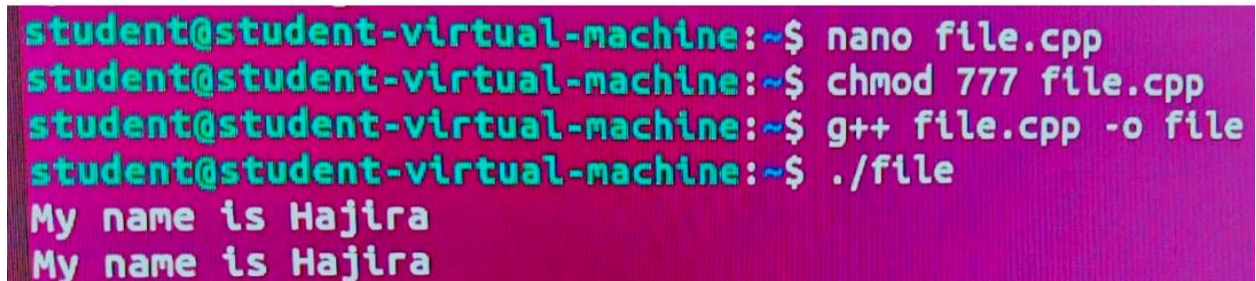
Tasks

The Fork system call is used for creating a new process in Linux, and Unix systems, which is called the child process, which runs concurrently with the process that makes the fork() call (parent process). After a new child process is created, both processes will execute the next instruction following the fork() system call. Now here in this case we use conditional statement or AND operator.

If both conditions are true then it will proceed further. Code executes parent and child occur parent receives positive value and child receive negative. After the parent, two more processes generate the child and parent now from parent to parent we have 1 then statement execute on the other hand again process creates parent and child the second time execute.

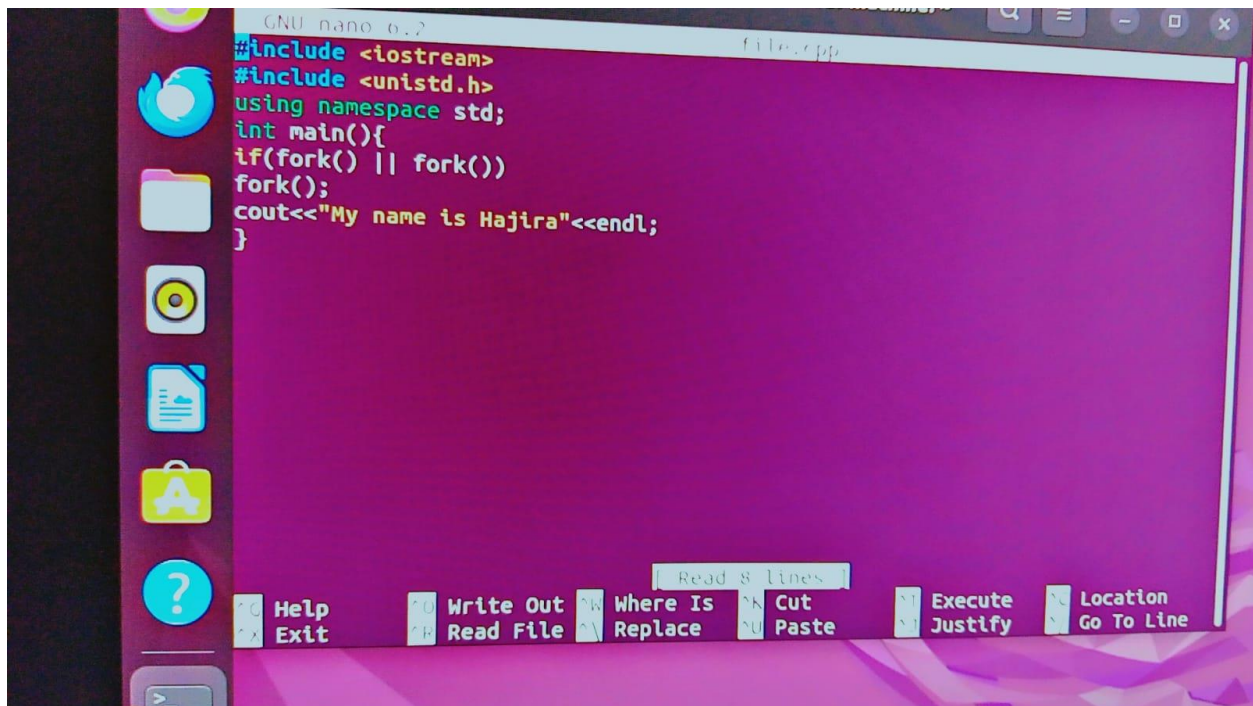


```
student@student-virtual-machine: ~  
file.cpp  
#include <iostream>  
#include <unistd.h>  
using namespace std;  
int main(){  
    if(fork() && fork())  
        fork();  
    cout<<"My name is Hajira"<<endl;  
}
```



```
student@student-virtual-machine:~$ nano file.cpp  
student@student-virtual-machine:~$ chmod 777 file.cpp  
student@student-virtual-machine:~$ g++ file.cpp -o file  
student@student-virtual-machine:~$ ./file  
My name is Hajira  
My name is Hajira
```

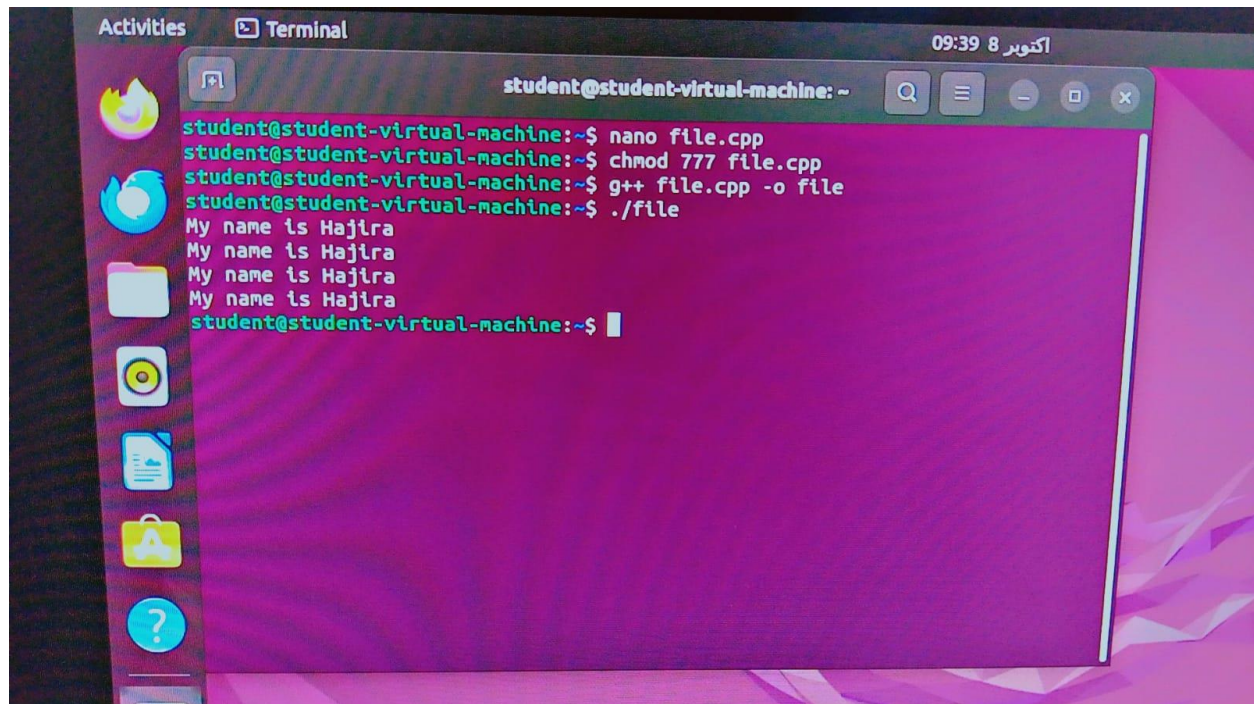
In the OR operator if any of one is true, the result will be true then it will proceed. The first fork creates child (0) and parent (1). The second fork is called for both Parent (1) and child (1). Then Parent (1) will be divided into Child (0) and Parent (1) and Child (1) will be divided into Child (0), and Child (0). One condition in child (1) is true (0+1=true). It will further divide into Child (0) and Child (0) this is the last call of fork. In this way 4 times My name is Hajira is printed.



```
GNU nano 6.2 file.cpp
#include <iostream>
#include <unistd.h>
using namespace std;
int main(){
    if(fork() || fork())
        fork();
    cout<<"My name is Hajira"<<endl;
}
```

Read 8 lines

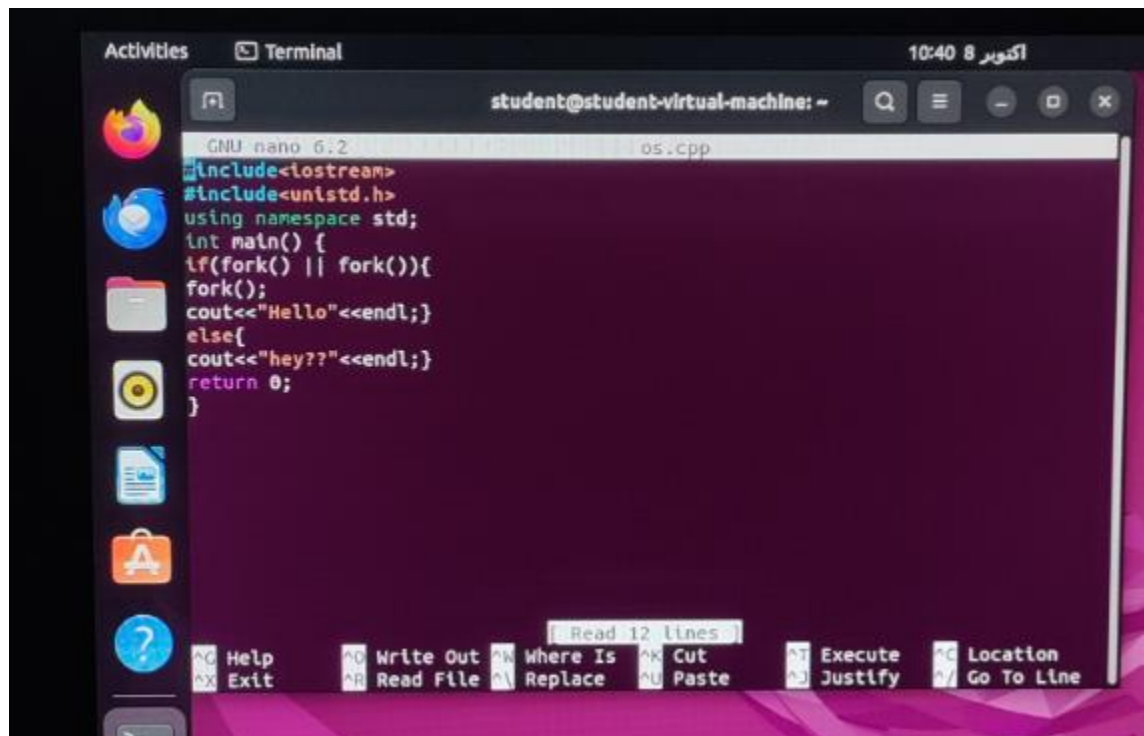
Help	Write Out	Where Is	Cut	Execute	Location
Exit	Read File	Replace	Paste	Justify	Go To Line



A terminal window titled "student@student-virtual-machine: ~" with a search icon, menu icon, and window control buttons. The terminal shows the following commands and output:

```
student@student-virtual-machine:~$ nano file.cpp
student@student-virtual-machine:~$ chmod 777 file.cpp
student@student-virtual-machine:~$ g++ file.cpp -o file
student@student-virtual-machine:~$ ./file
My name is Hajira
My name is Hajira
My name is Hajira
My name is Hajira
student@student-virtual-machine:~$
```

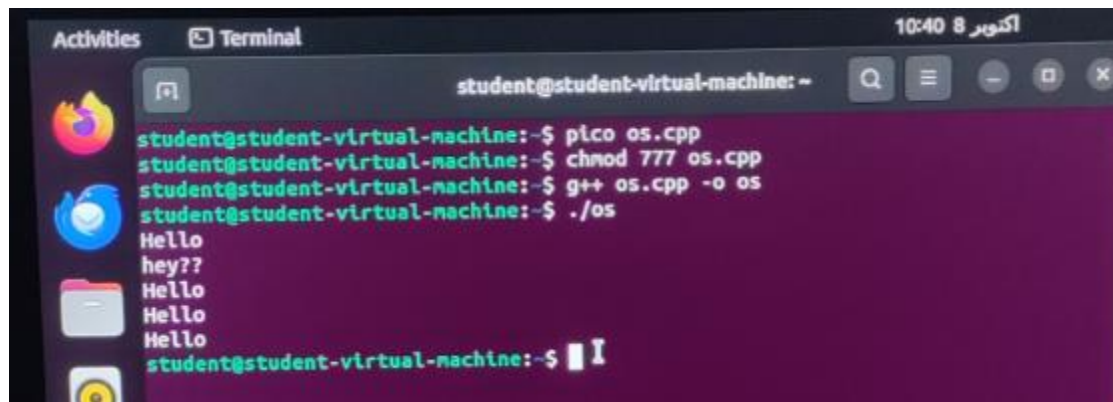
The background of the terminal window is a purple and pink geometric pattern. On the left side, there is a vertical dock with icons for Firefox, Telegram, a folder, a CD, a document, a shopping bag, and a question mark.



A terminal window titled "student@student-virtual-machine: ~" with a search icon, menu icon, and window control buttons. The terminal shows the source code of a C++ program in the nano 6.2 editor:

```
GNU nano 6.2 os.cpp
#include<iostream>
#include<unistd.h>
using namespace std;
int main() {
    if(fork() || fork()){
        fork();
        cout<<"Hello"<<endl;}
    else{
        cout<<"hey??"<<endl;}
    return 0;
}
```

The terminal window has a purple and pink geometric background. On the left side, there is a vertical dock with icons for Firefox, Telegram, a folder, a CD, a document, a shopping bag, and a question mark. At the bottom of the terminal window, there is a status bar with the text "Read 12 lines" and a list of keyboard shortcuts: Help, Write Out, Where Is, Cut, Execute, Location, Exit, Read File, Replace, Paste, Justify, and Go To Line.



```
student@student-virtual-machine:~  
student@student-virtual-machine:~$ pico os.cpp  
student@student-virtual-machine:~$ chmod 777 os.cpp  
student@student-virtual-machine:~$ g++ os.cpp -o os  
student@student-virtual-machine:~$ ./os  
Hello  
hey??  
Hello  
Hello  
Hello  
student@student-virtual-machine:~$
```

In this program, we have used the OR operator with the if else case means if the fork fails then the else case will run. OR the operator will work if one of the conditions is false it will false.