
Inspiring Excellence

**LAB ASSIGNMENT 02**

# SPRING 2024

**COURSE CODE: CSE321**

**COURSE TITLE: Operating Systems**

**PREPARED BY**

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Section: 12

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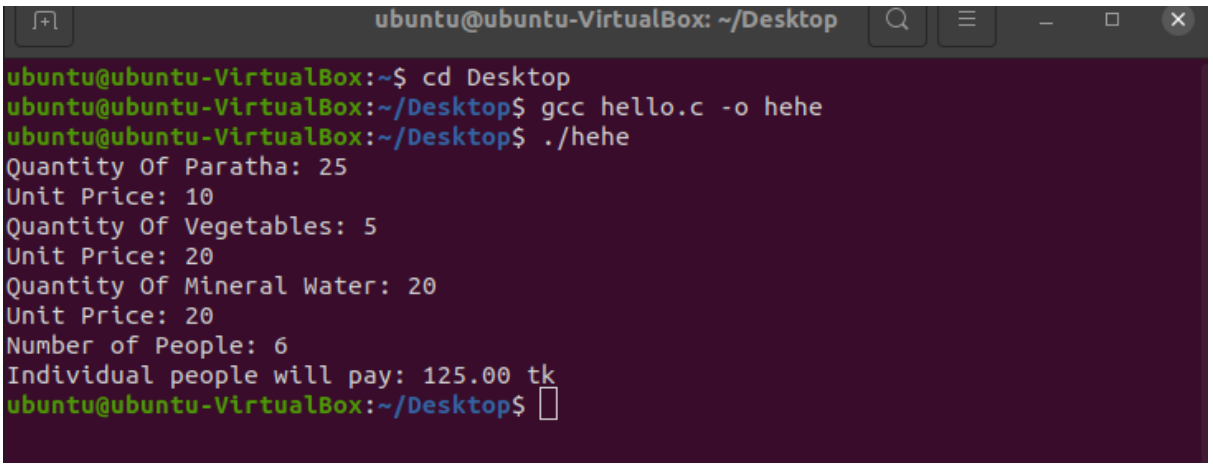
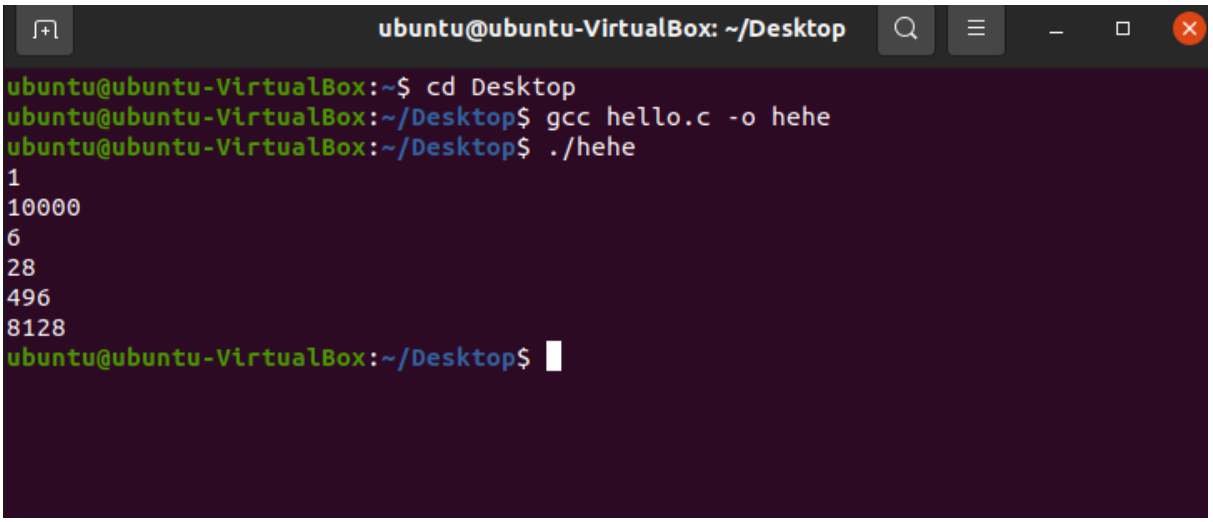
**The following questions are related to C programming (struct and function):**

**Task 1:**

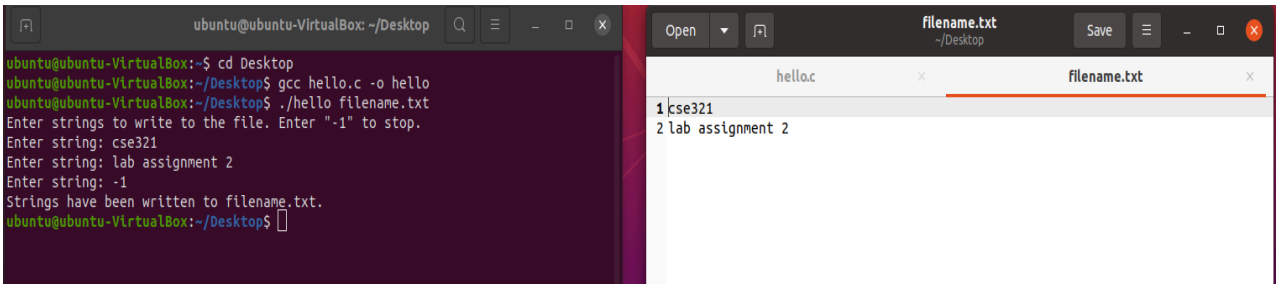



**Task 2:**

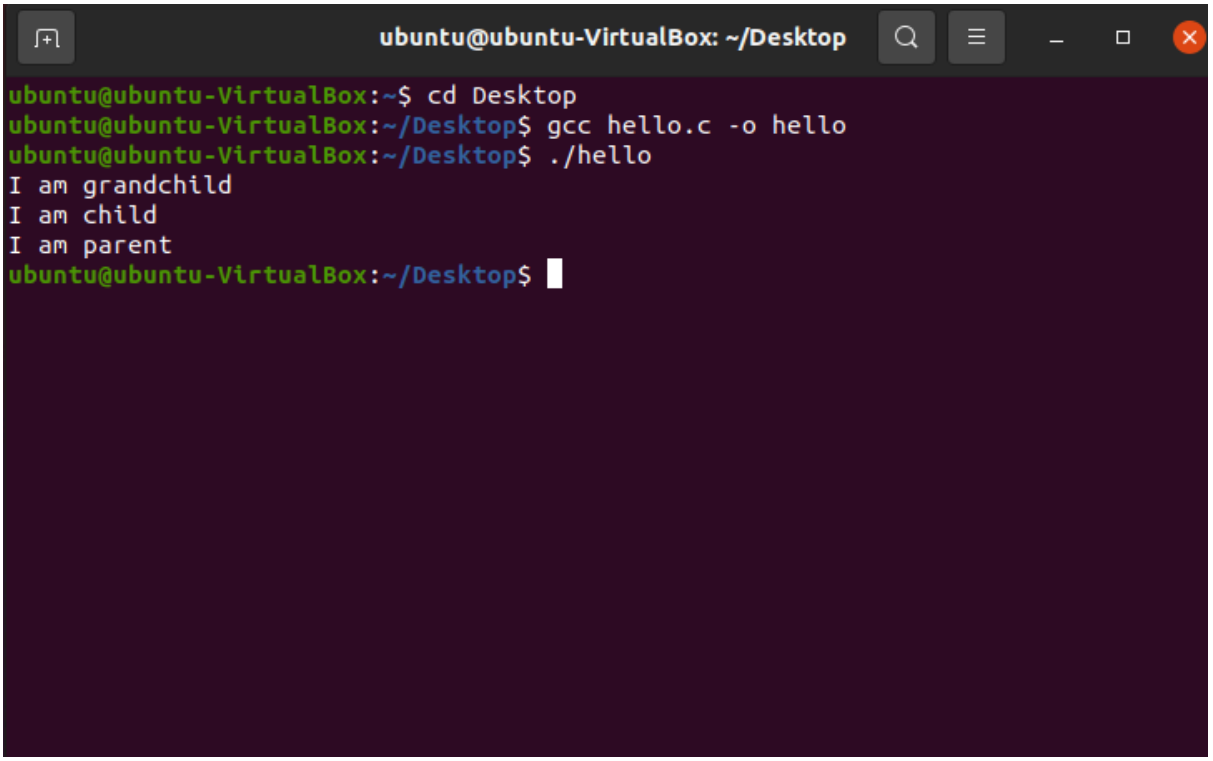



**The following questions are related to system call:**

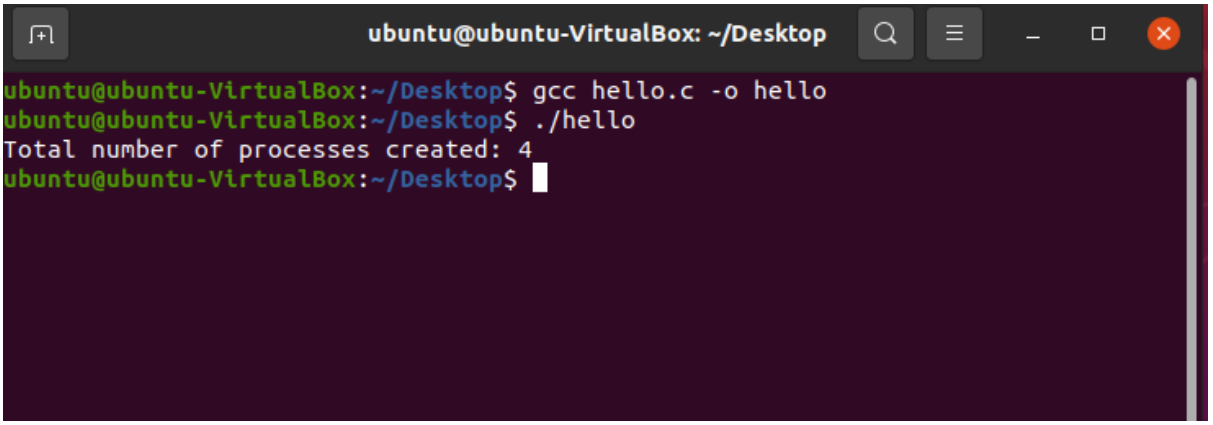
**Task 1:**



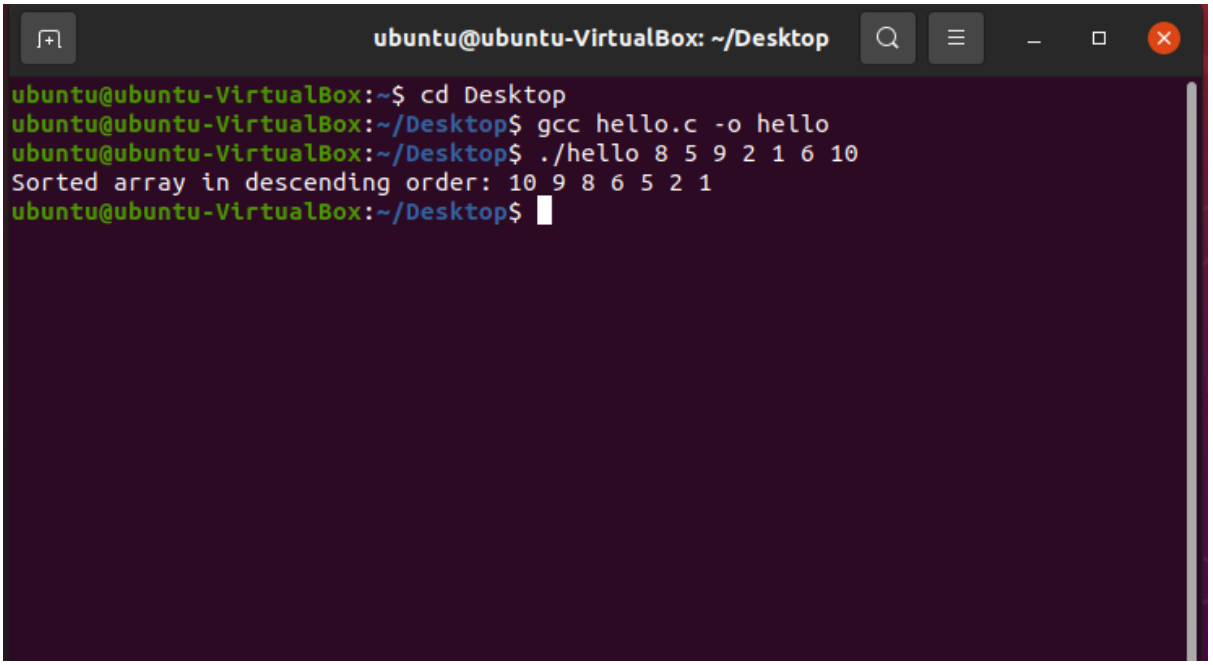

**Task 2:**

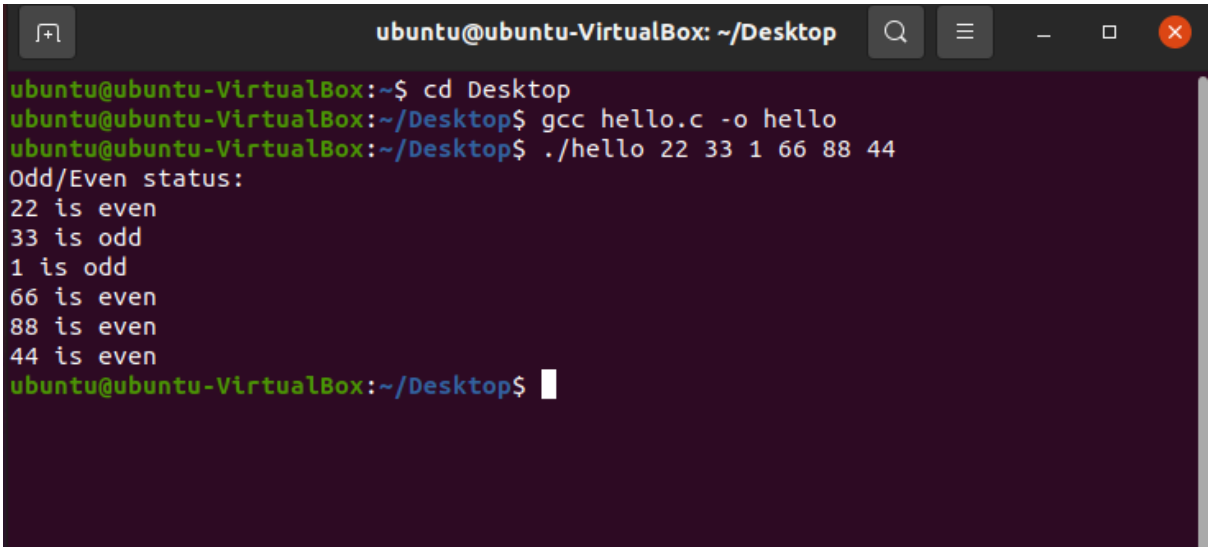

ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~$ cd Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
I am grandchild
I am child
I am parent
ubuntu@ubuntu-VirtualBox:~/Desktop$

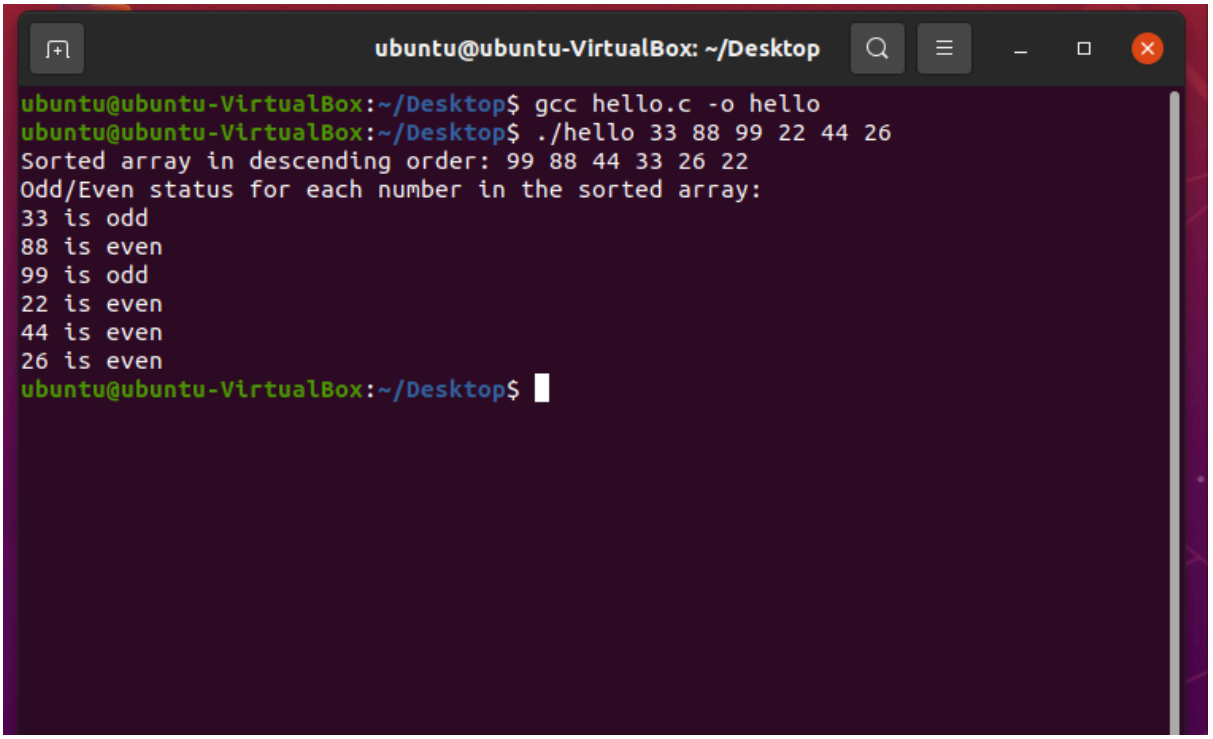
**Task 3:**


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
Total number of processes created: 4
ubuntu@ubuntu-VirtualBox:~/Desktop$

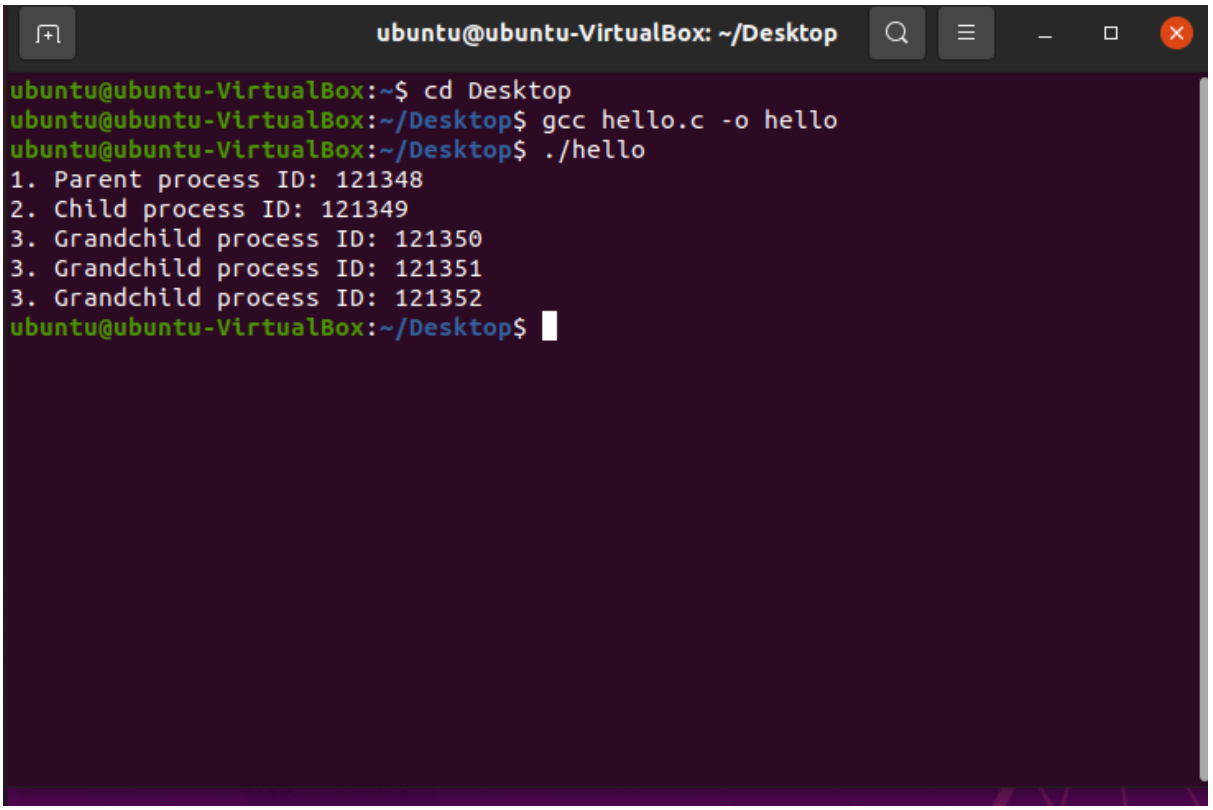
**Task 4:**


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~$ cd Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello 8 5 9 2 1 6 10
Sorted array in descending order: 10 9 8 6 5 2 1
ubuntu@ubuntu-VirtualBox:~/Desktop$


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~$ cd Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello 22 33 1 66 88 44
Odd/Even status:
22 is even
33 is odd
1 is odd
66 is even
88 is even
44 is even
ubuntu@ubuntu-VirtualBox:~/Desktop$

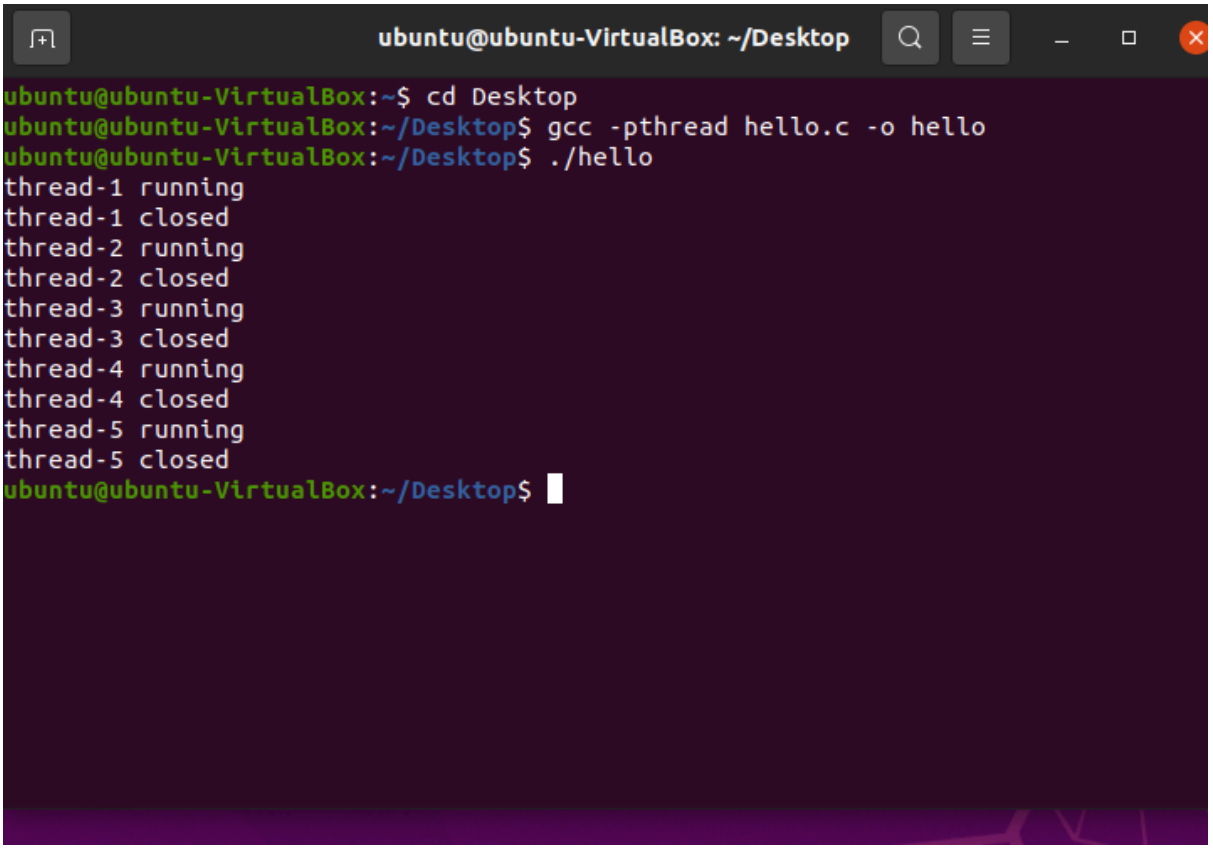



**Task 5:**

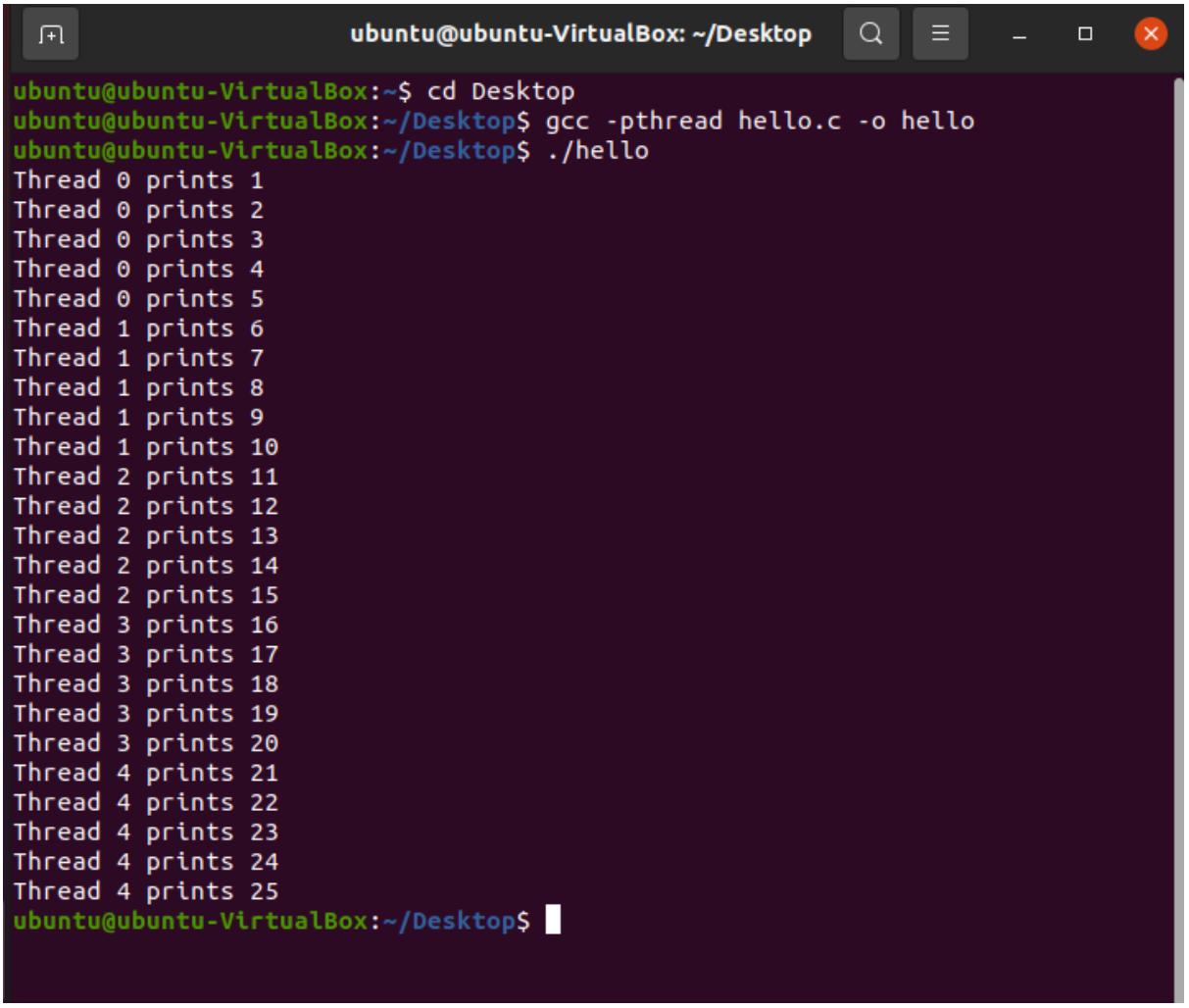



**The following questions are related to Threading:**

**Task 1:**


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~$ cd Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc -pthread hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
thread-1 running
thread-1 closed
thread-2 running
thread-2 closed
thread-3 running
thread-3 closed
thread-4 running
thread-4 closed
thread-5 running
thread-5 closed
ubuntu@ubuntu-VirtualBox:~/Desktop$

**Task 2:**


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~$ cd Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc -pthread hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
Thread 0 prints 1
Thread 0 prints 2
Thread 0 prints 3
Thread 0 prints 4
Thread 0 prints 5
Thread 1 prints 6
Thread 1 prints 7
Thread 1 prints 8
Thread 1 prints 9
Thread 1 prints 10
Thread 2 prints 11
Thread 2 prints 12
Thread 2 prints 13
Thread 2 prints 14
Thread 2 prints 15
Thread 3 prints 16
Thread 3 prints 17
Thread 3 prints 18
Thread 3 prints 19
Thread 3 prints 20
Thread 4 prints 21
Thread 4 prints 22
Thread 4 prints 23
Thread 4 prints 24
Thread 4 prints 25
ubuntu@ubuntu-VirtualBox:~/Desktop$

## Task 3:


ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc -pthread hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
Enter the names of three users:
User 1: a
User 2: a
User 3: a
Youreka
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc -pthread hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
Enter the names of three users:
User 1: a
User 2: a
User 3: b
Miracle
ubuntu@ubuntu-VirtualBox:~/Desktop$ gcc -pthread hello.c -o hello
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./hello
Enter the names of three users:
User 1: a
User 2: b
User 3: c
Hasta la vista
ubuntu@ubuntu-VirtualBox:~/Desktop$