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Operating Systems Lab

Terminal Examination

Date: January 09, 2021 **Total Marks: 50**

Total Time: 3 hour 15 minutes

Course Instructor: Muhammad Wasif

Name: Muhammad Haris Irfan Roll No: FA18-BCE-090

Instructions:

1. This is a closed-book, closed-notes examination.
2. Use online portal only for the exam and label the question number clearly to get marks.
3. Peer communication or plagiarized content from internet is strictly prohibited.
4. If viva voce needed, students can be called.

Questions No	Marks Obtained	Total Marks
Q1		15
Q2		20
Q3		15
Total		**50**

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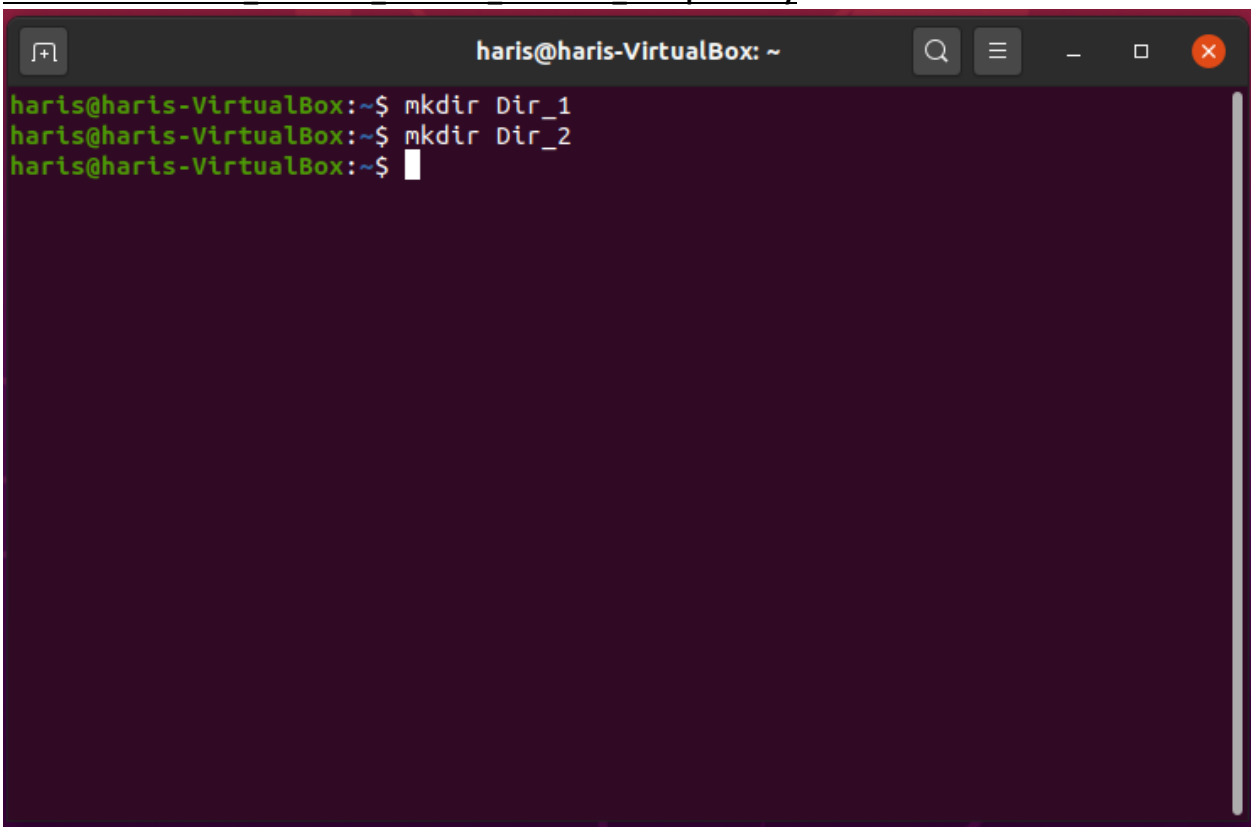
Question 01

Make two directories Dir_1, Dir_2

1. **Create two files File_01 & File _02 in Dir_1 and Dir_2 respectively**



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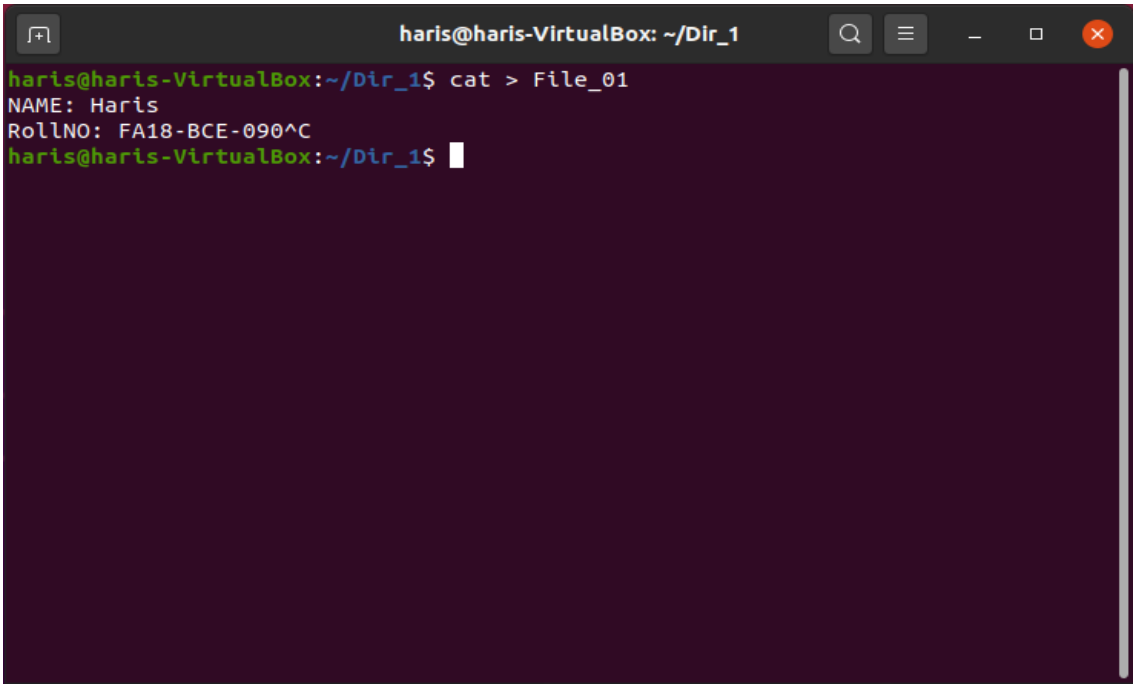
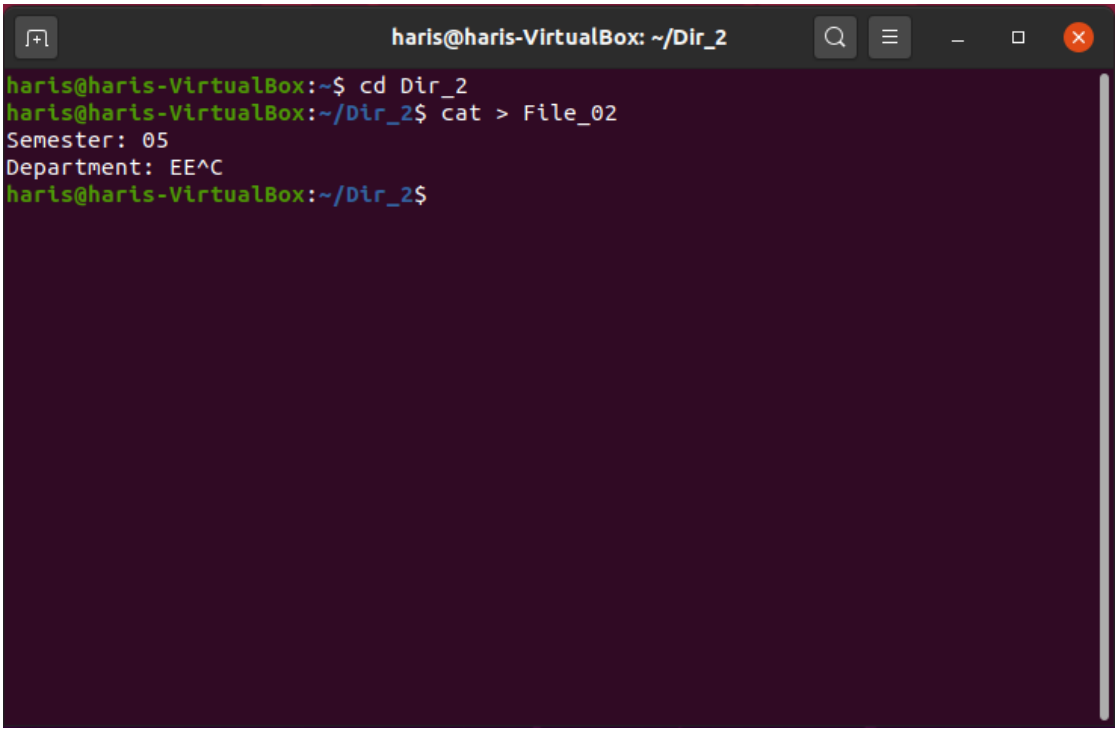
2. **Write your name & Roll number in File_1**



3. **Write your semester number and department in File_2**



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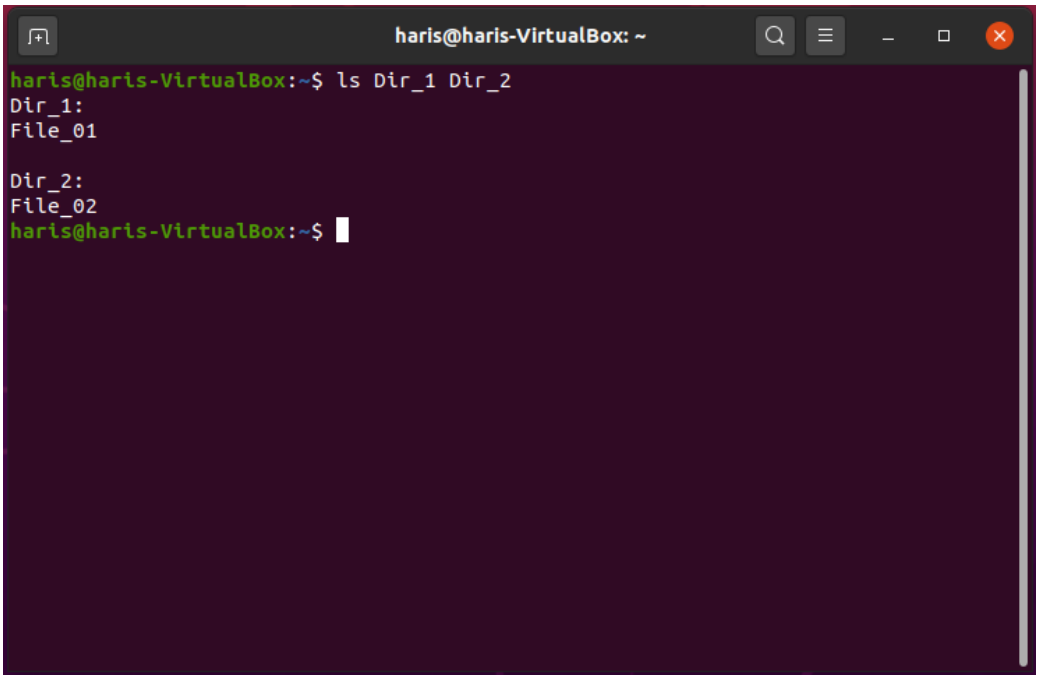
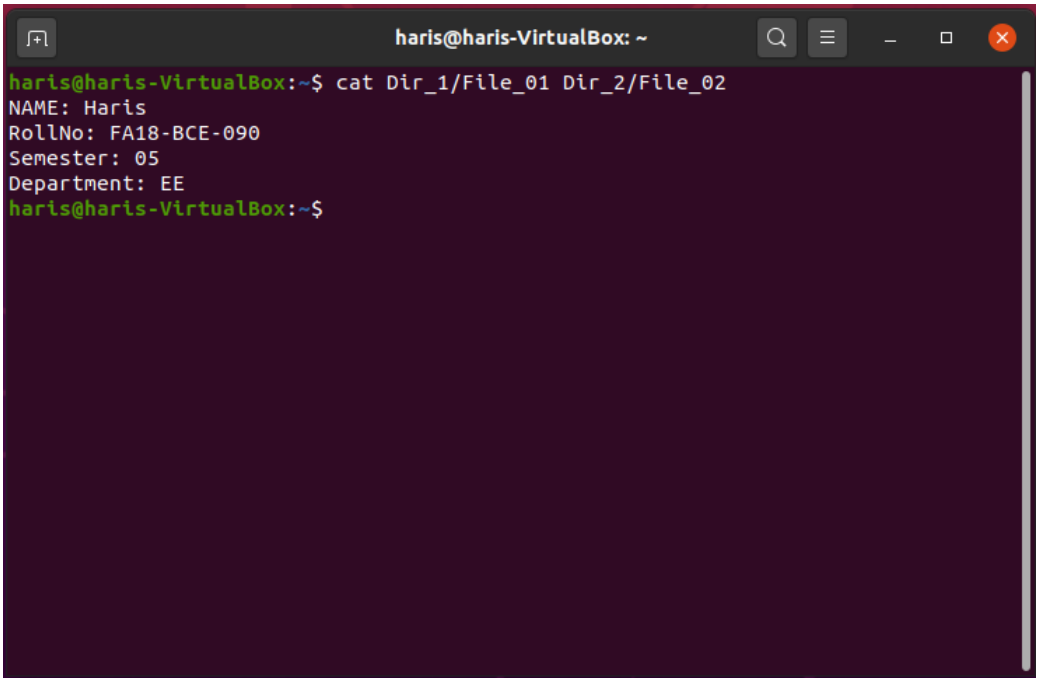
4. **Stay in the main folder and list the contents of both Dir_1 & Dir_2**



5. **Print the contents of the File_01 & File_02**



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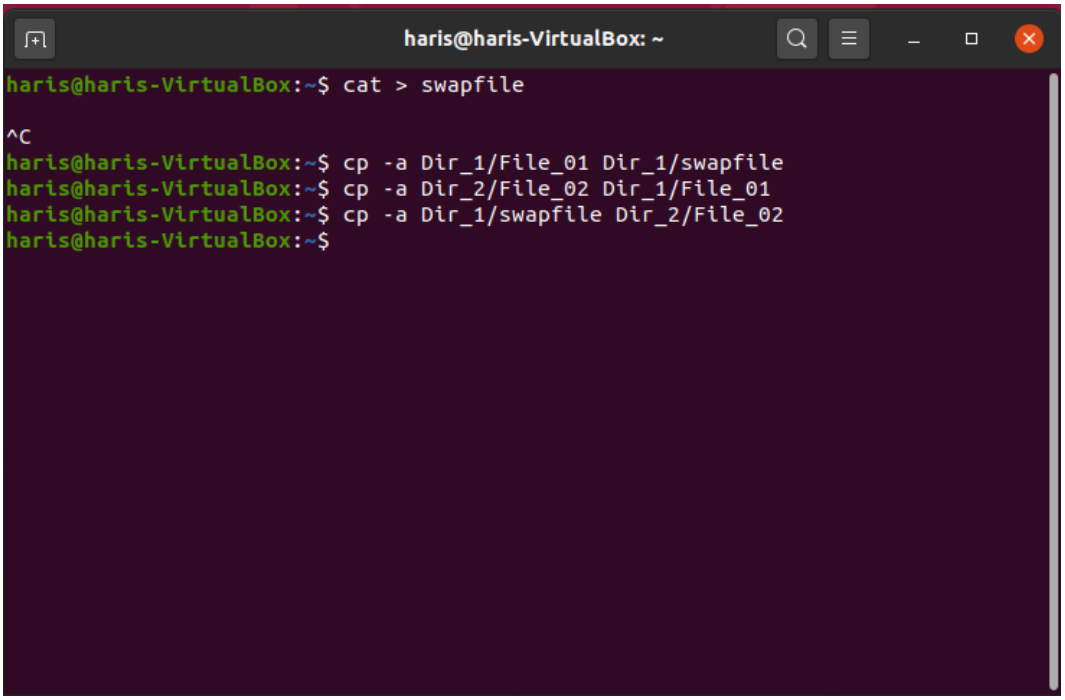
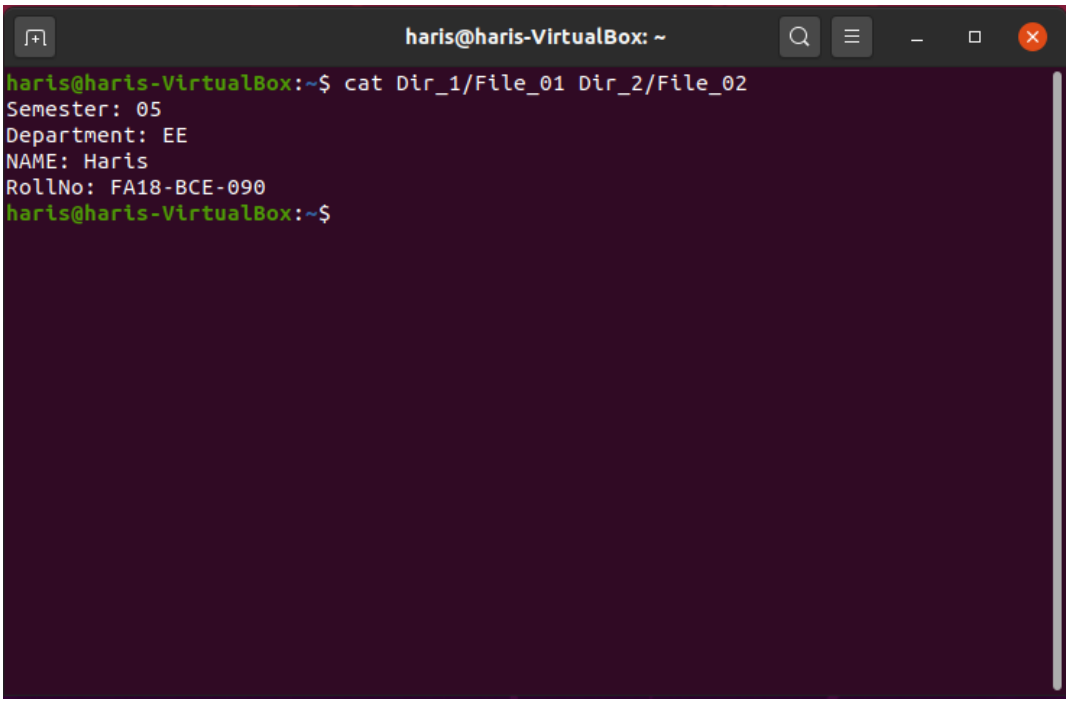
6. **Swap the contents of File_01 & File _02**



7. **Print the contents of the File_01 & File _02**



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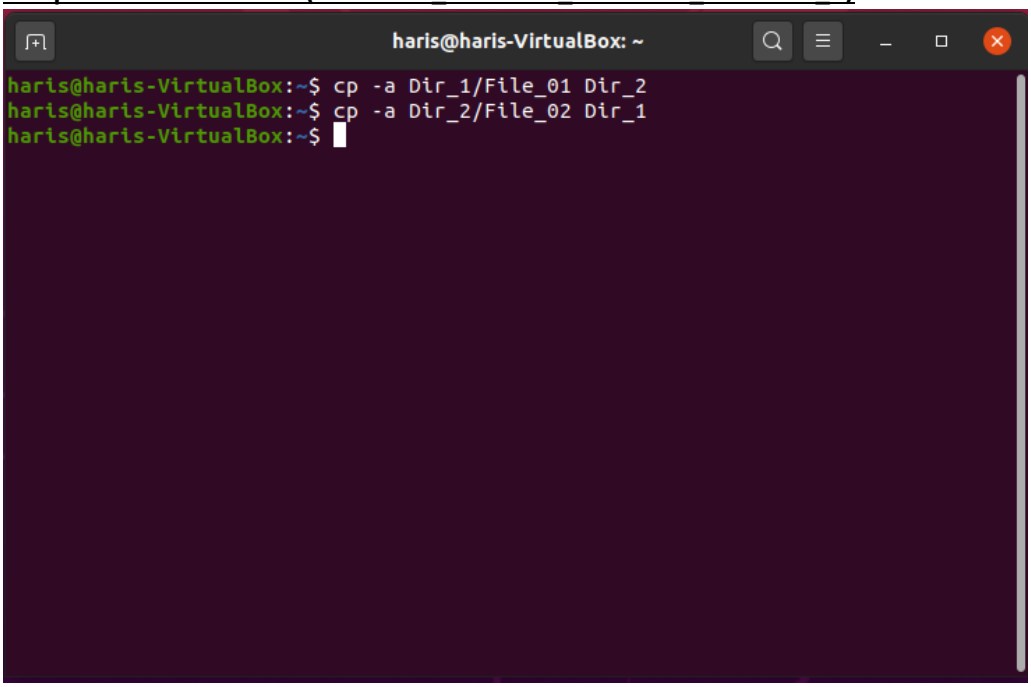
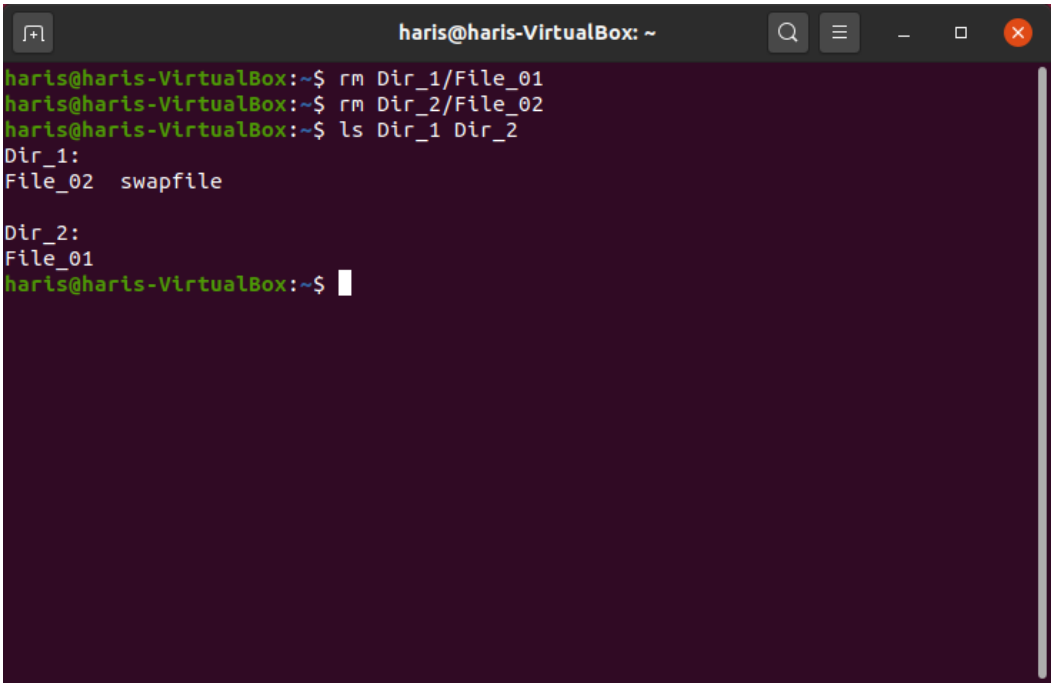
8. **Swap the file directories (move File_01 to Dir _2 and File_02 to Dir _2)**



9. Stay in the main folder and list the contents of both Dir_1 & Dir_



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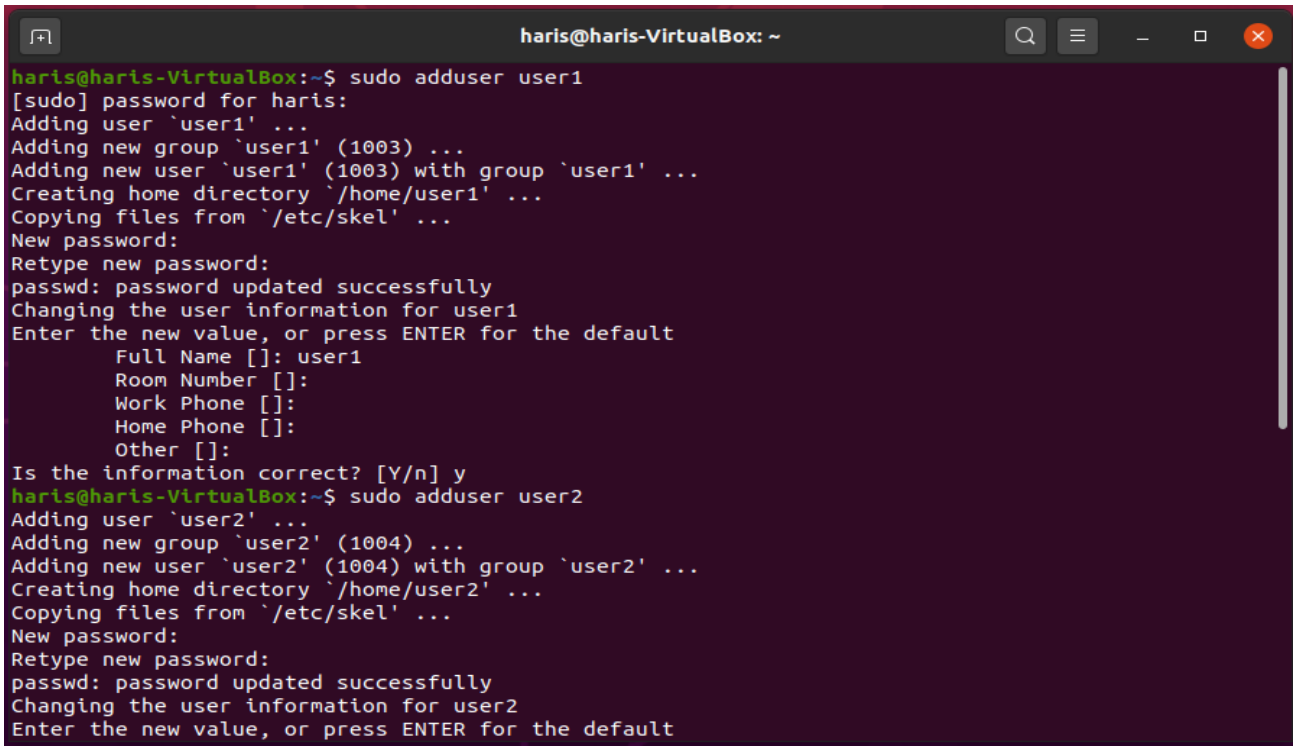
Question 02

Familiar with adduser command using:

1. man adduser/useradd, man groaddupadd useradd - create a new user or update default new user information. Create 3 user accounts (user1, user2, user3) and add 2 groups (gr1, gr2). add user1 to gr1 and add user2, user2 to gr2. Check user ID (UID) and group ID (GID) by listing file /etc/passwd. Find cl user. What is the UID and GID for these accounts? Write command which show UID and GID for your username:

   Below are pictures attached:



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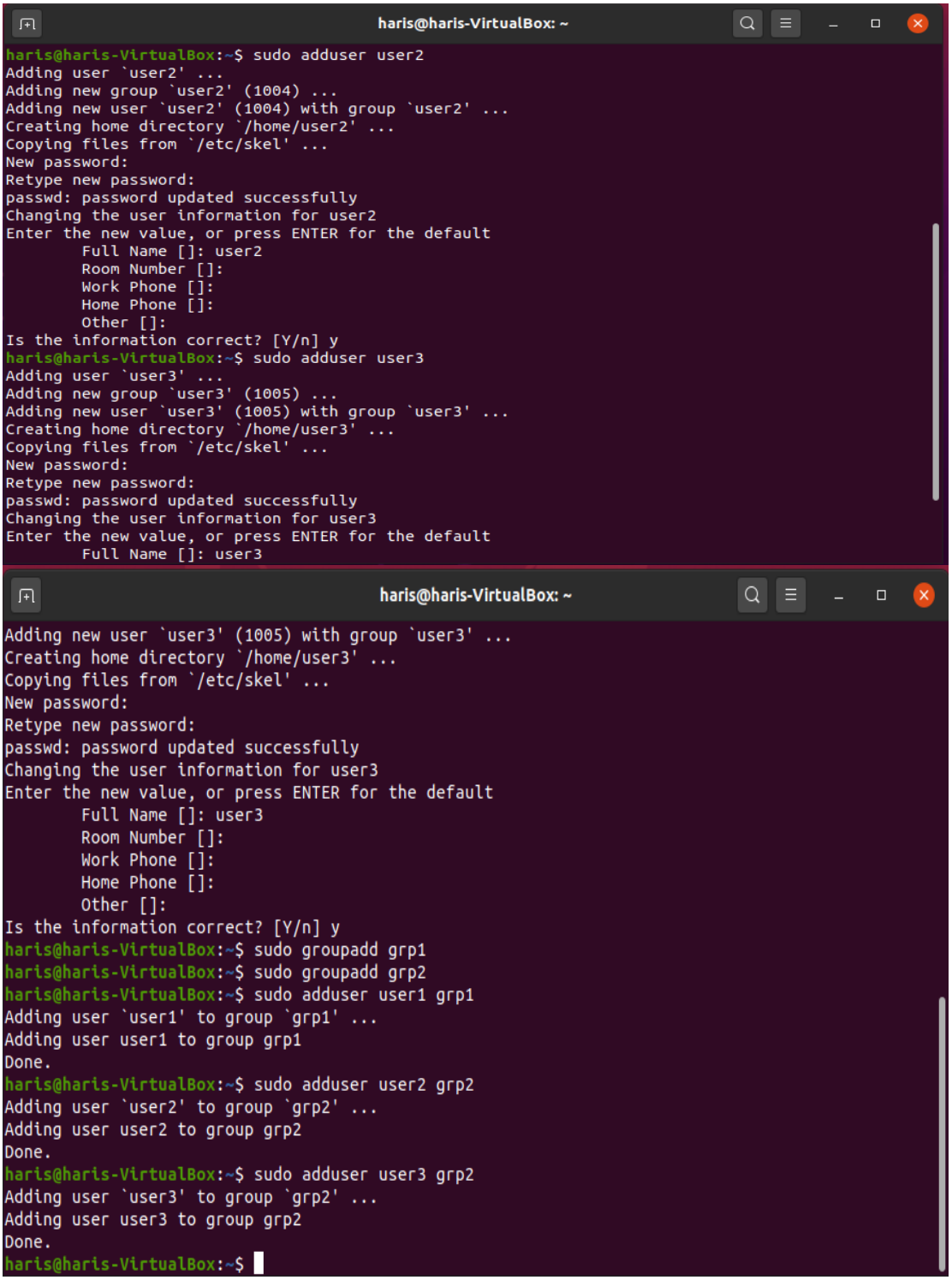

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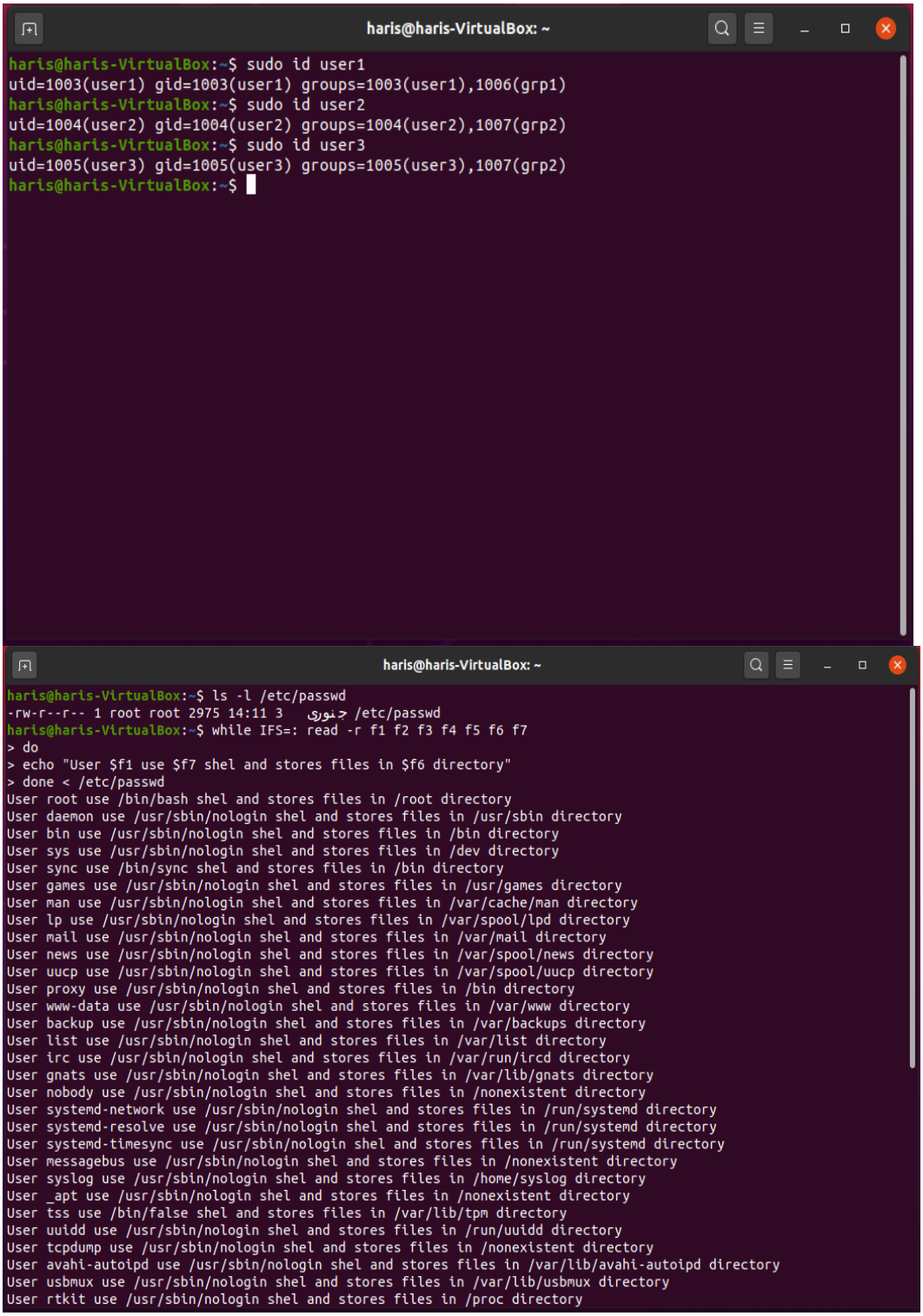

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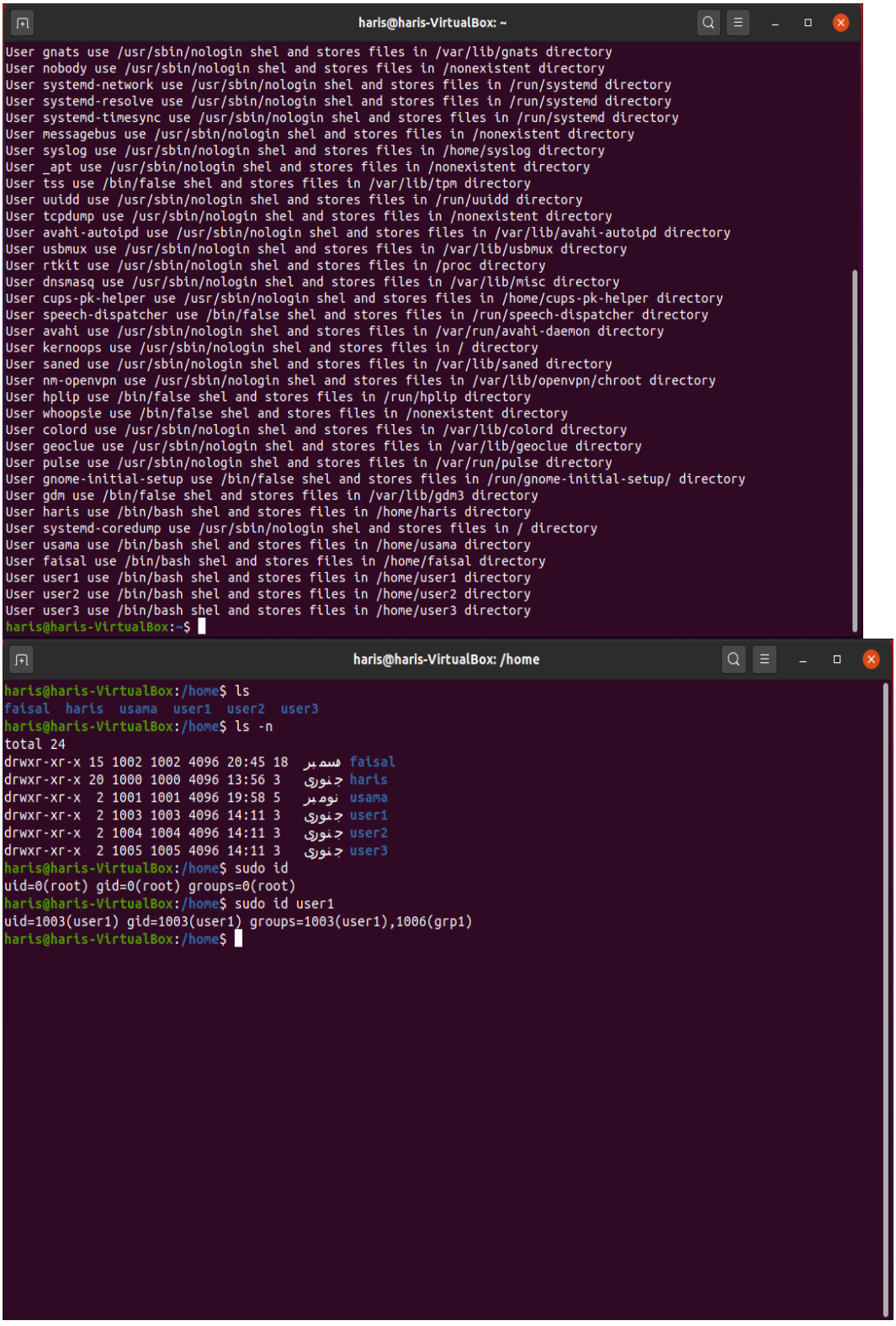

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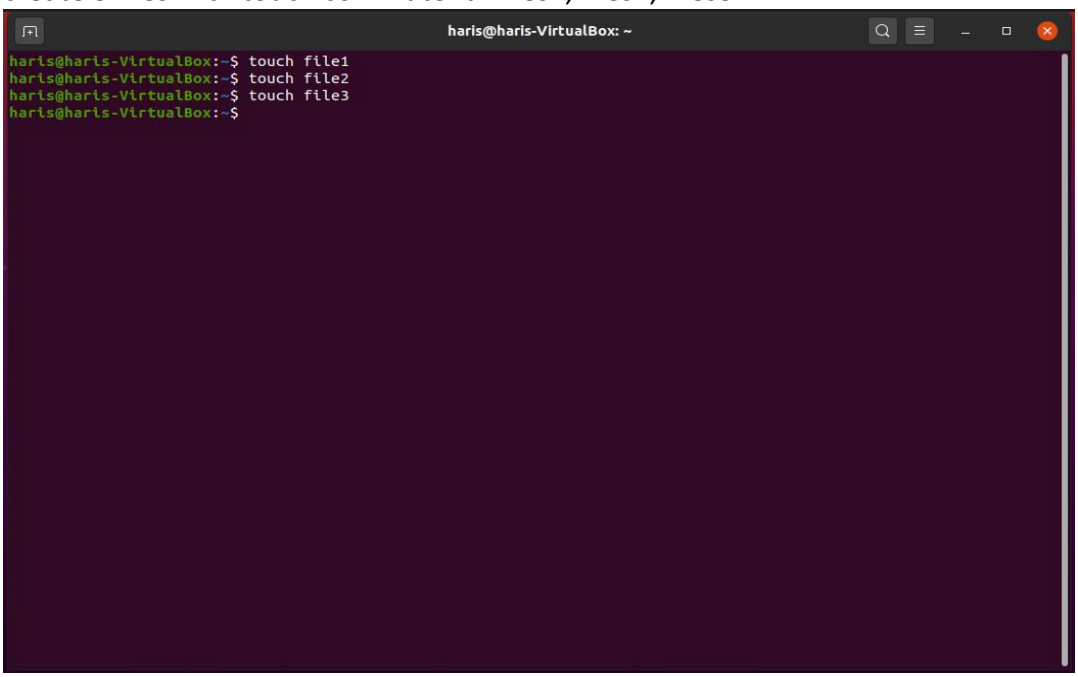
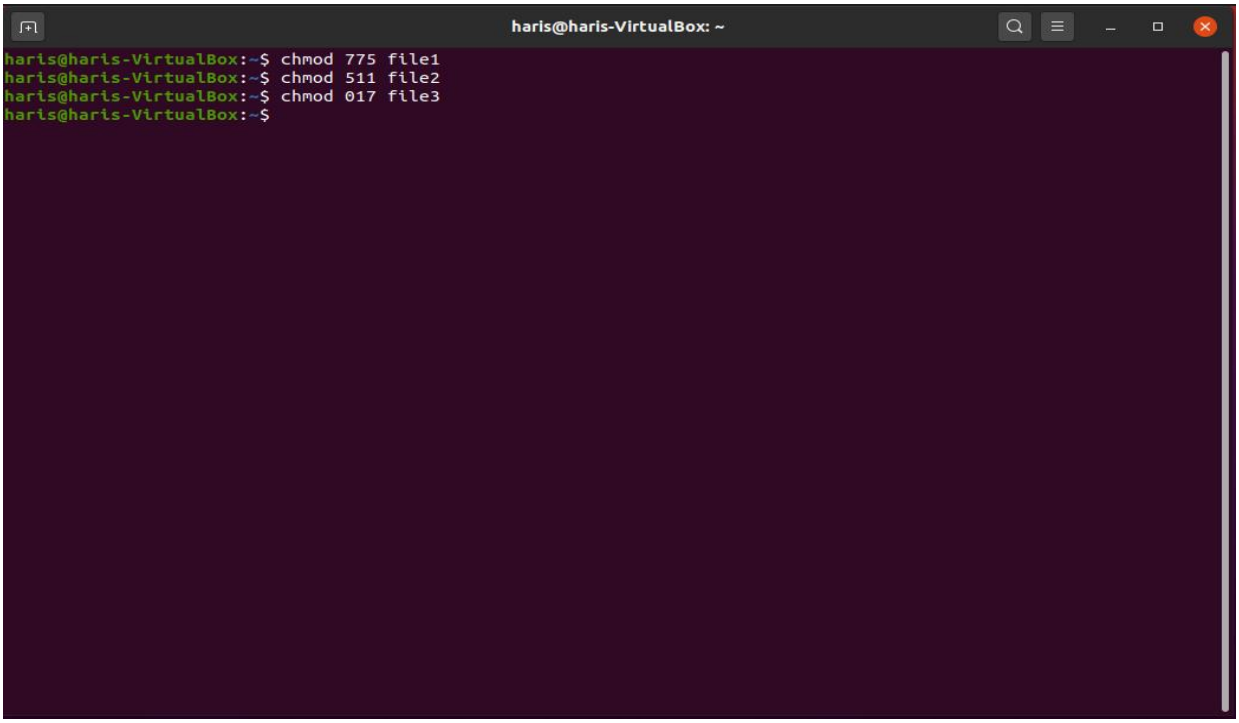
2. create 3 files with touch commatend: files1, files2, files3.



3. Write the command line by using letters with chmod to set the following permissions:
   - rwxrwxr-x for file1
   - r-x—x—x for file2
   - ——xrwx for file3



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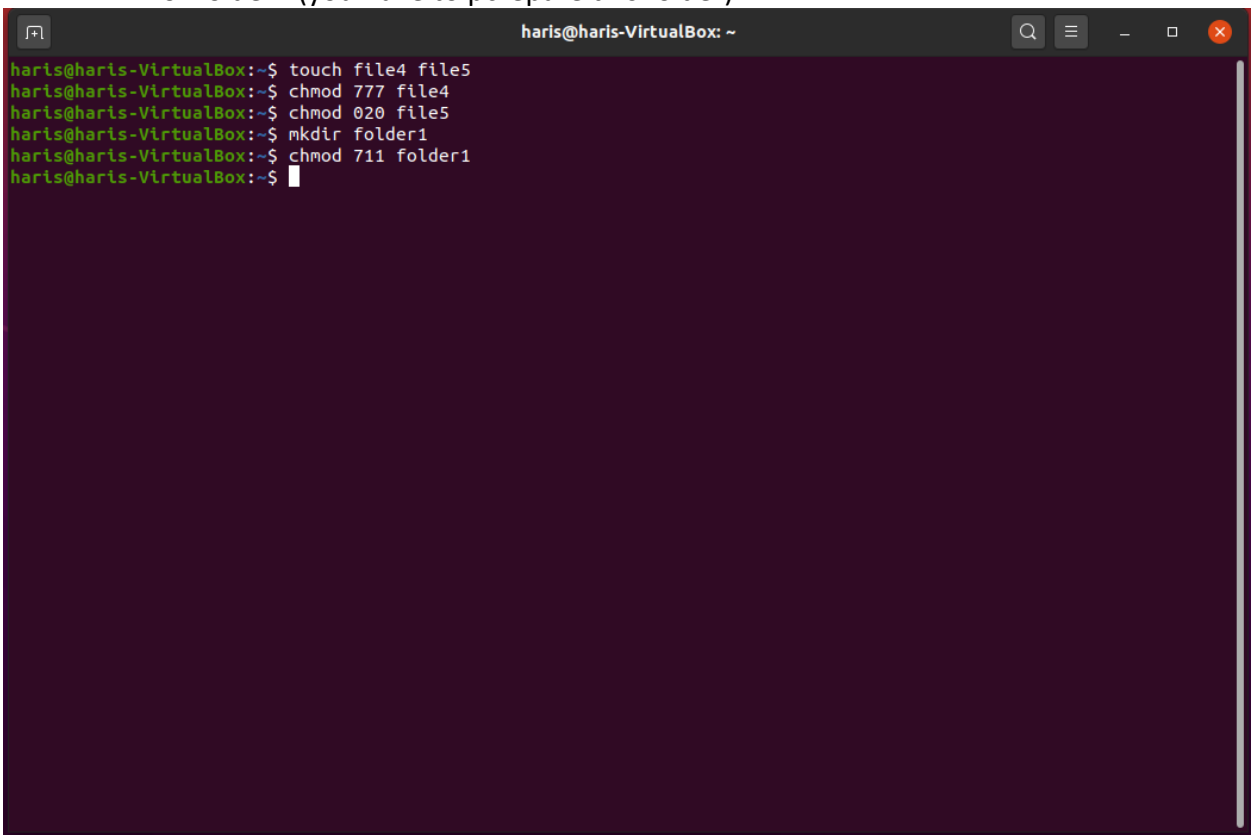
4. Write the command line by using numbers with chmod to set the following permissions:
   - rwxrwxrwx for file4 (you have to prepare this file)
   - -w------- for file5 (you have to prepare this file)
   - rwx--x—x for folder1 (you have to pcrepare this folder)



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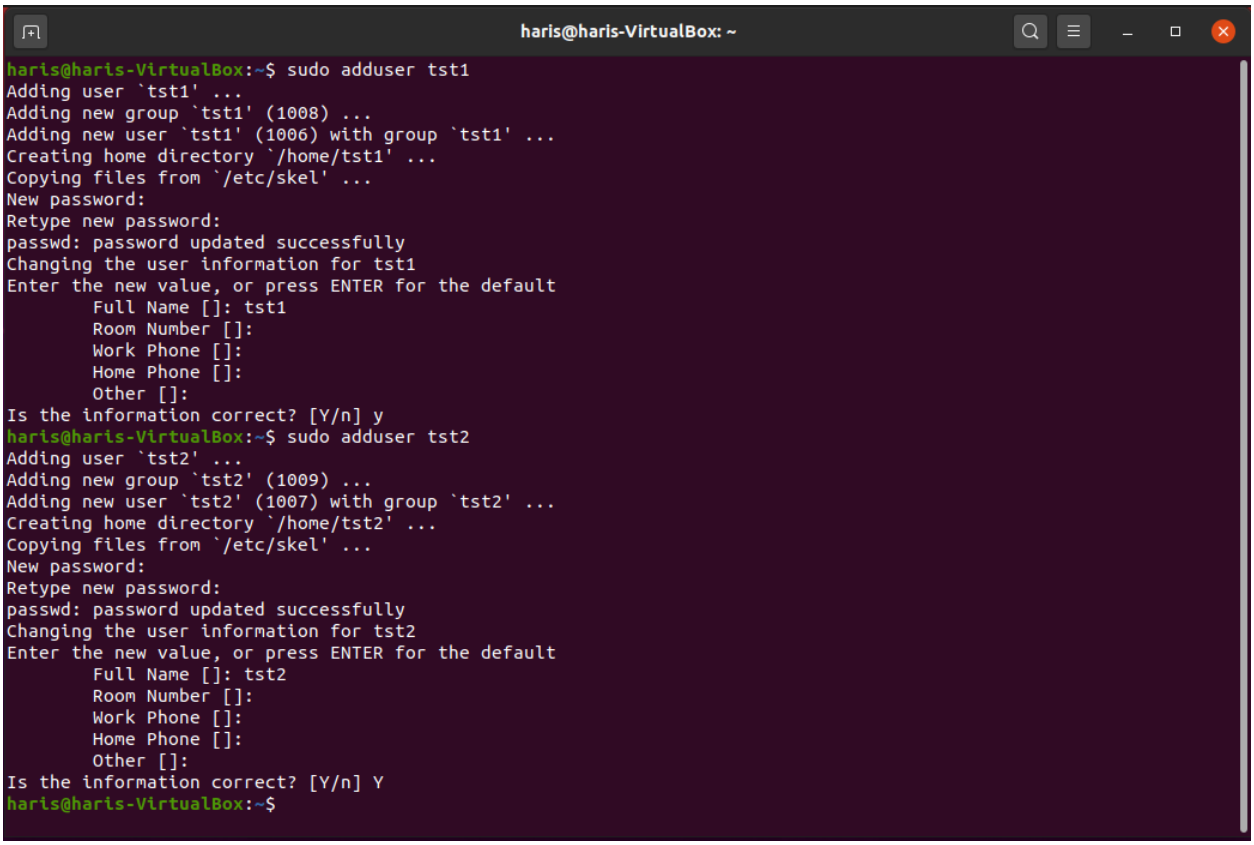
5. Create two user accounts: tst1 and tst2 Logging in id: tst1, group users, with bash shell, home directory /home/tst1 Logging in id: tst2, group public, with bash shell, home directory home/tst2 For the two accounts set a password.



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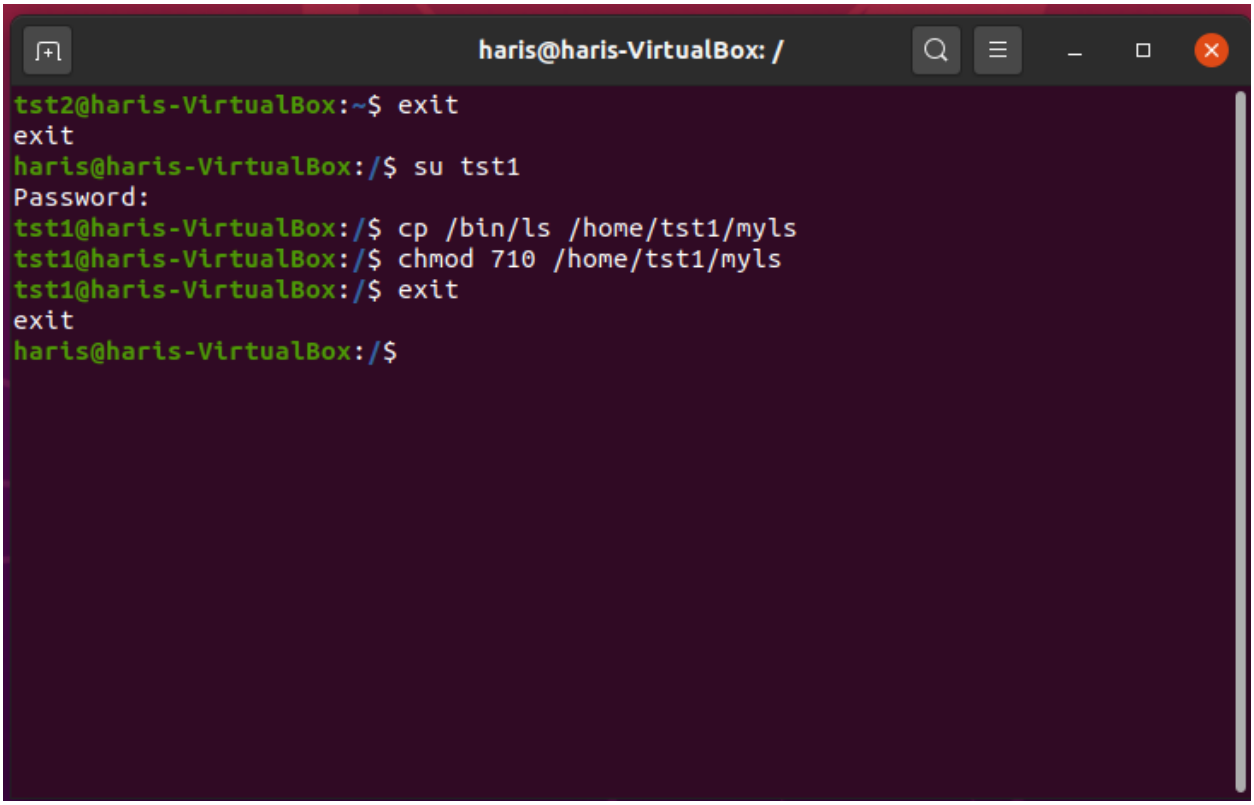
6. Logging in as tst1 and copy /bin/ls into tst1 home directory as mcpyls file. Change the owner of myls to tst1 and the permissions to 0710. What does this permission value mean?



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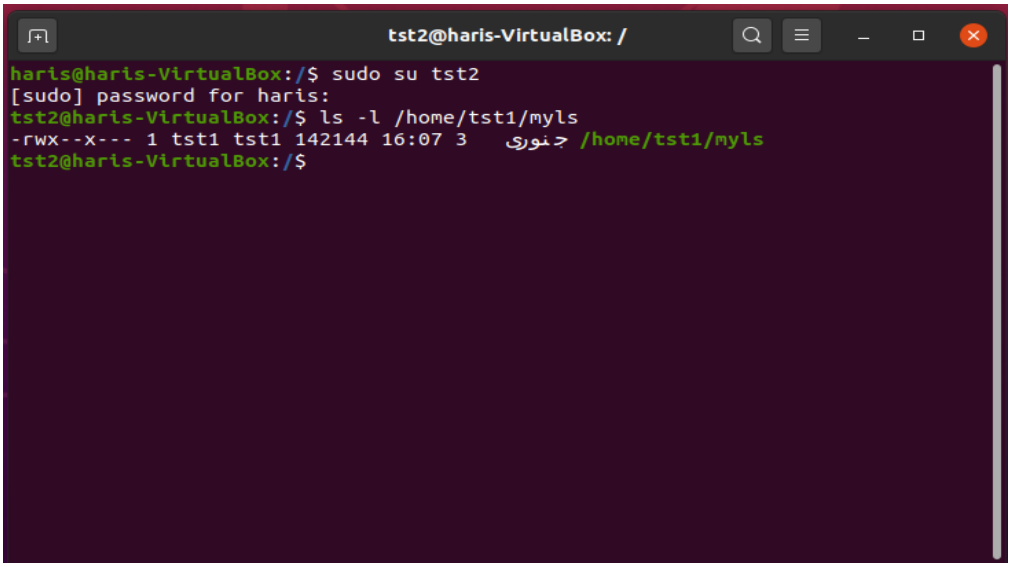
7. Logging in as tst2 and try to use /home/tst1/myls to list your current directory. Does it work ?

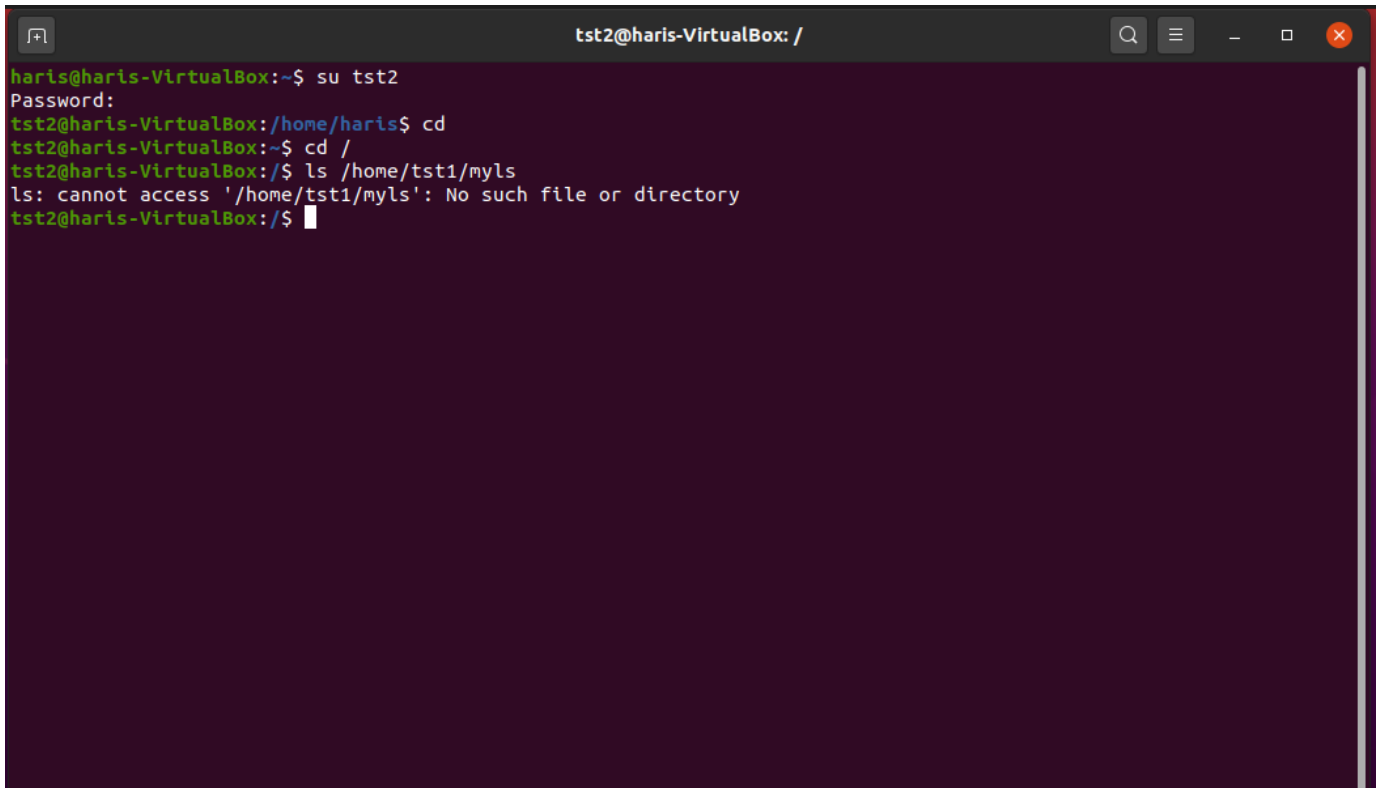
   Clclec



8. Create a new group labo with tst1 and tst2. Change the owner group of myls file to labo. Try again from tst2 account to execute /home/tst1/myls to list your current directory. Does

It

work?



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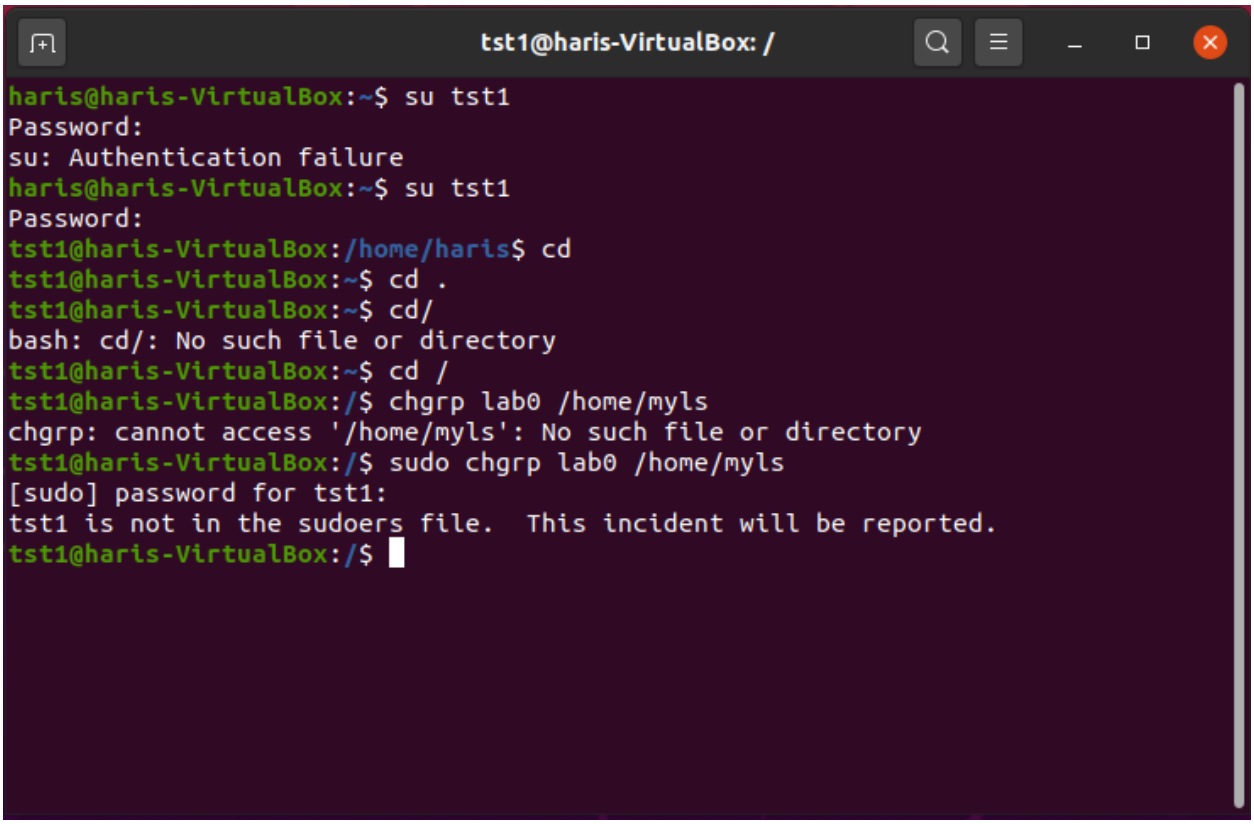

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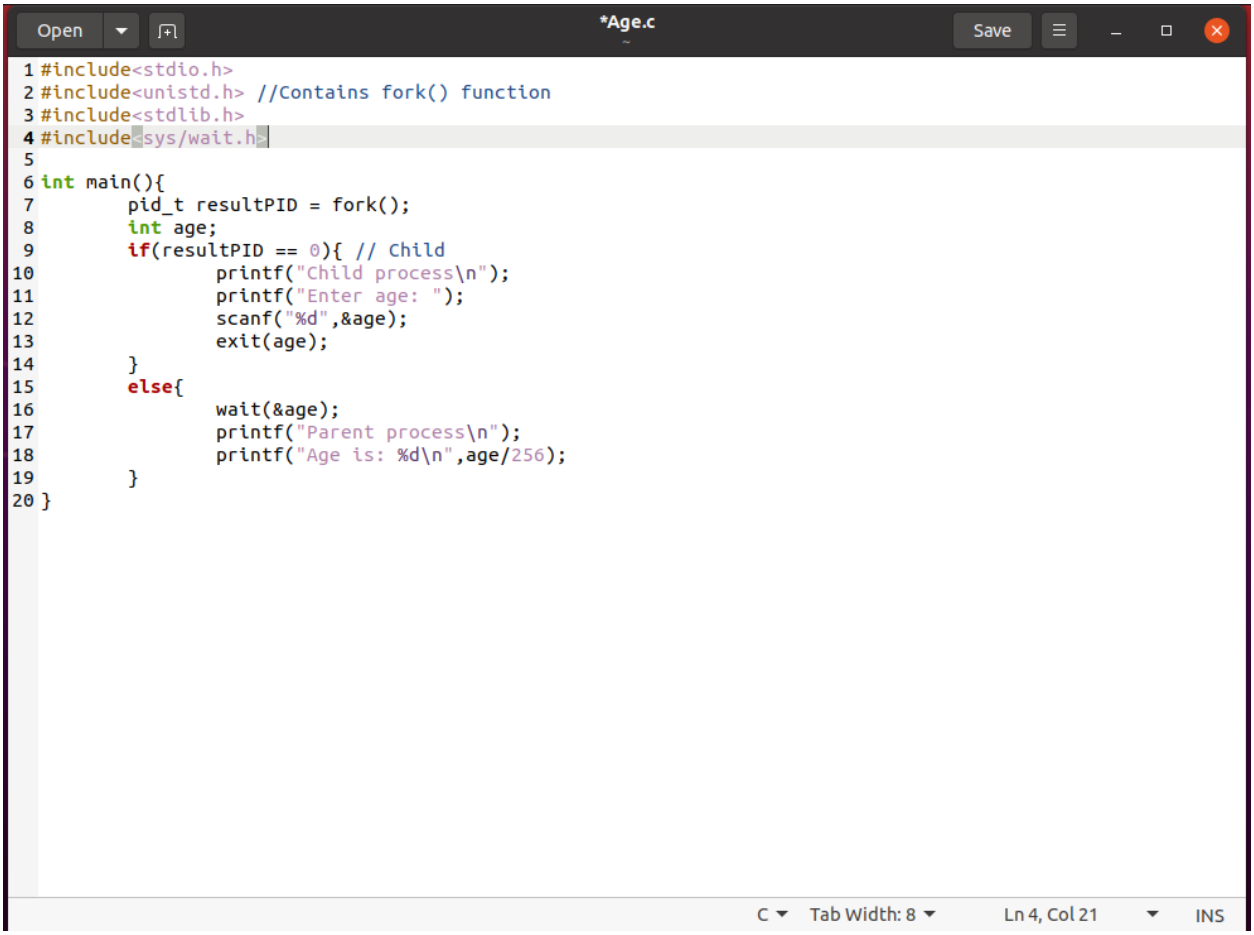
Question 03

1. Write a C/C++ program in which a parent process creates a child process using a fork() system call. The child process takes your age as input and parent process prints the age.



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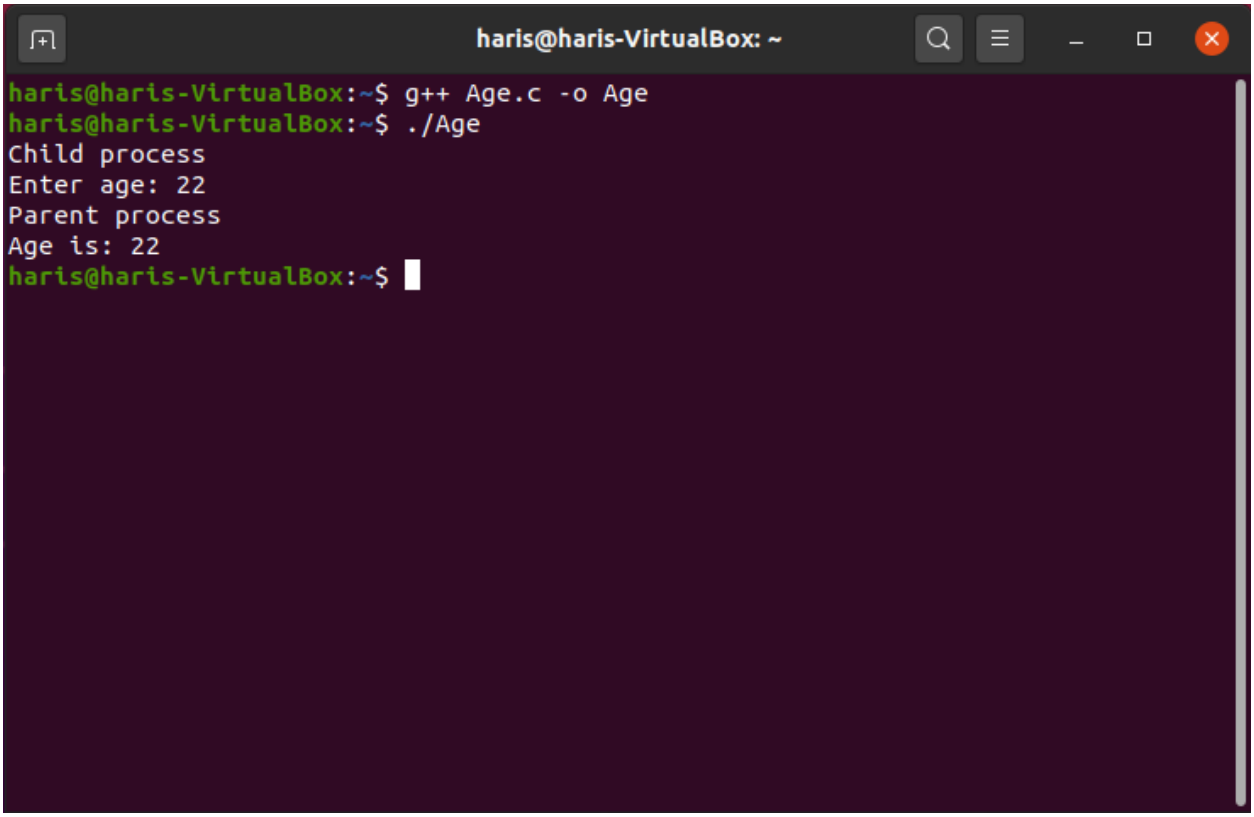

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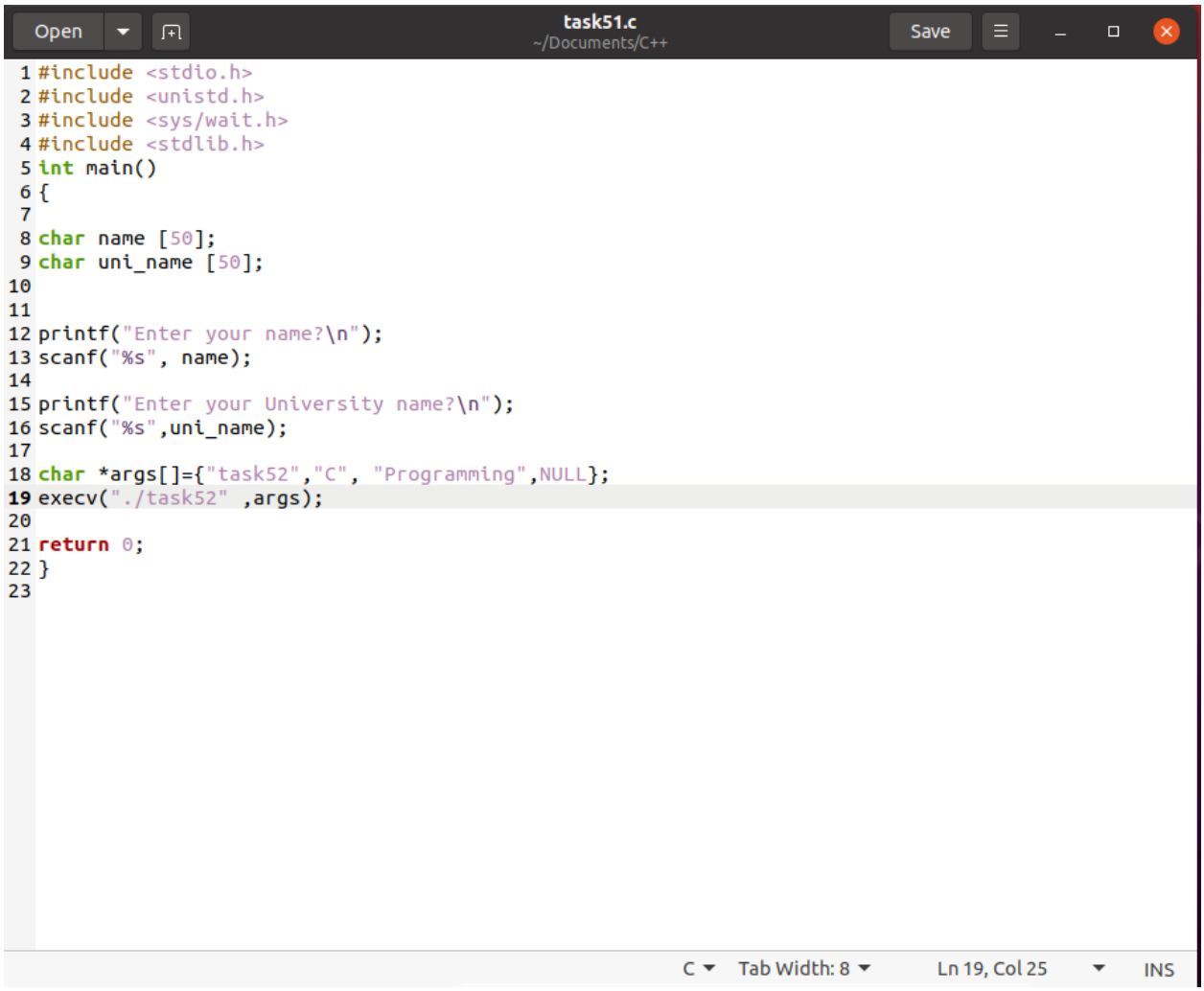
2. Write a C/C++ program that asks user to enter his name and his university name. Within the same program, execute another program that asks the user to enter his degree name and department name.
   Hint: write 2 separate programs and execute using execv()



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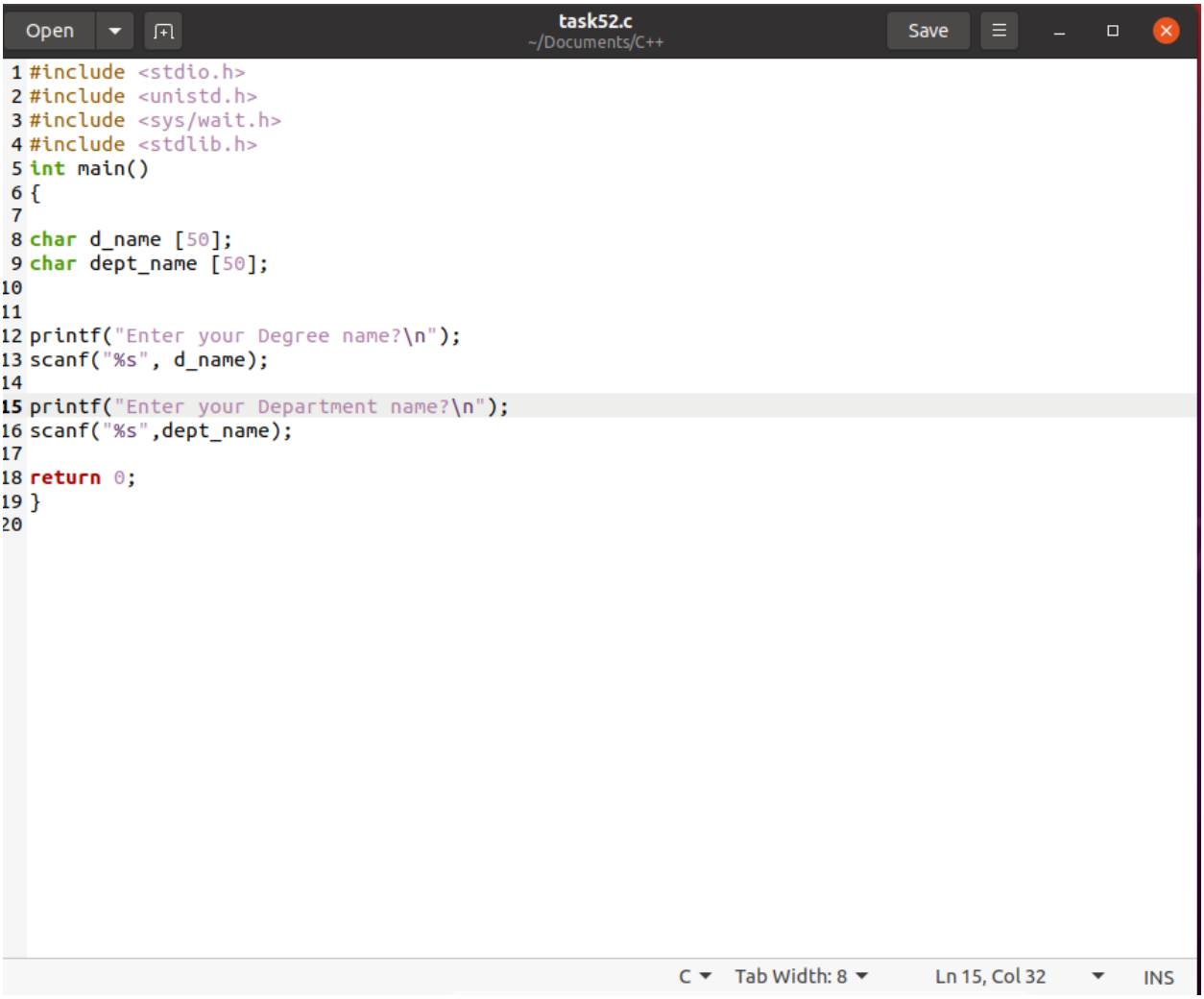

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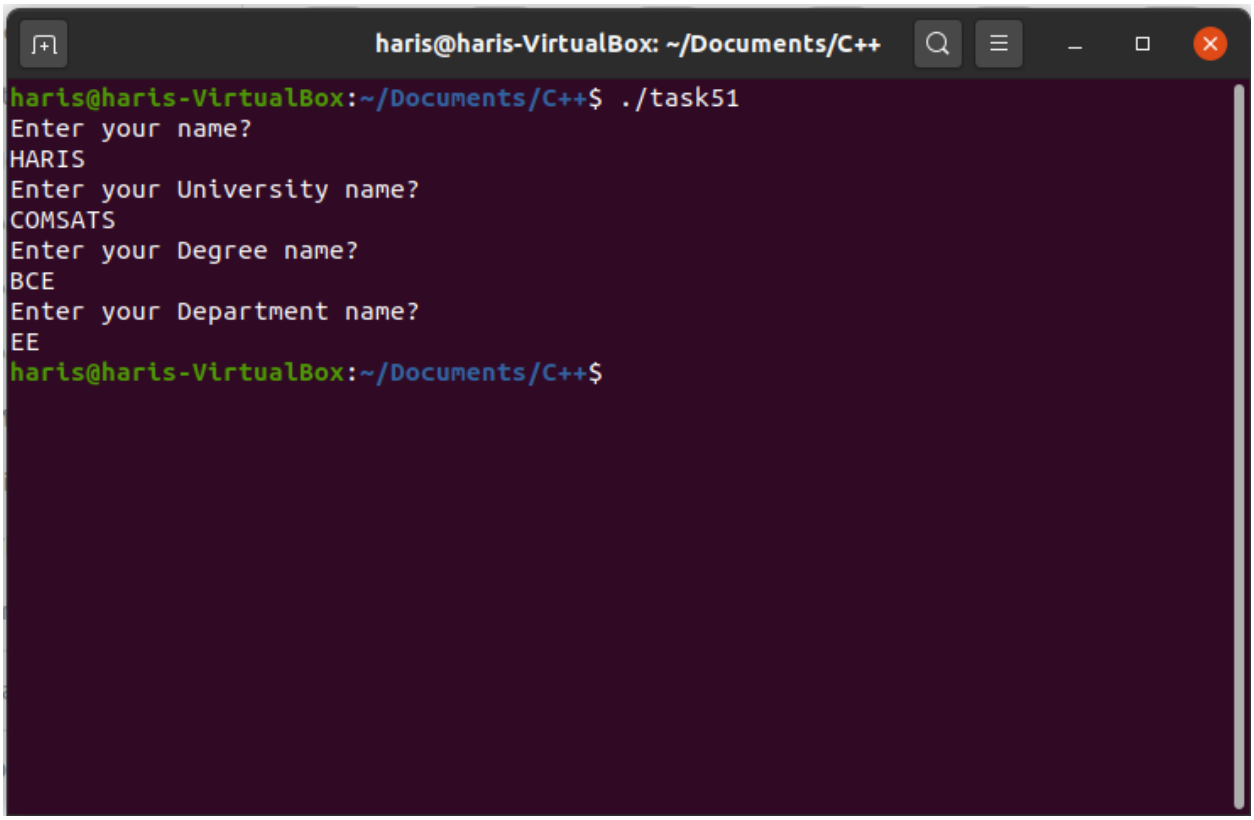

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