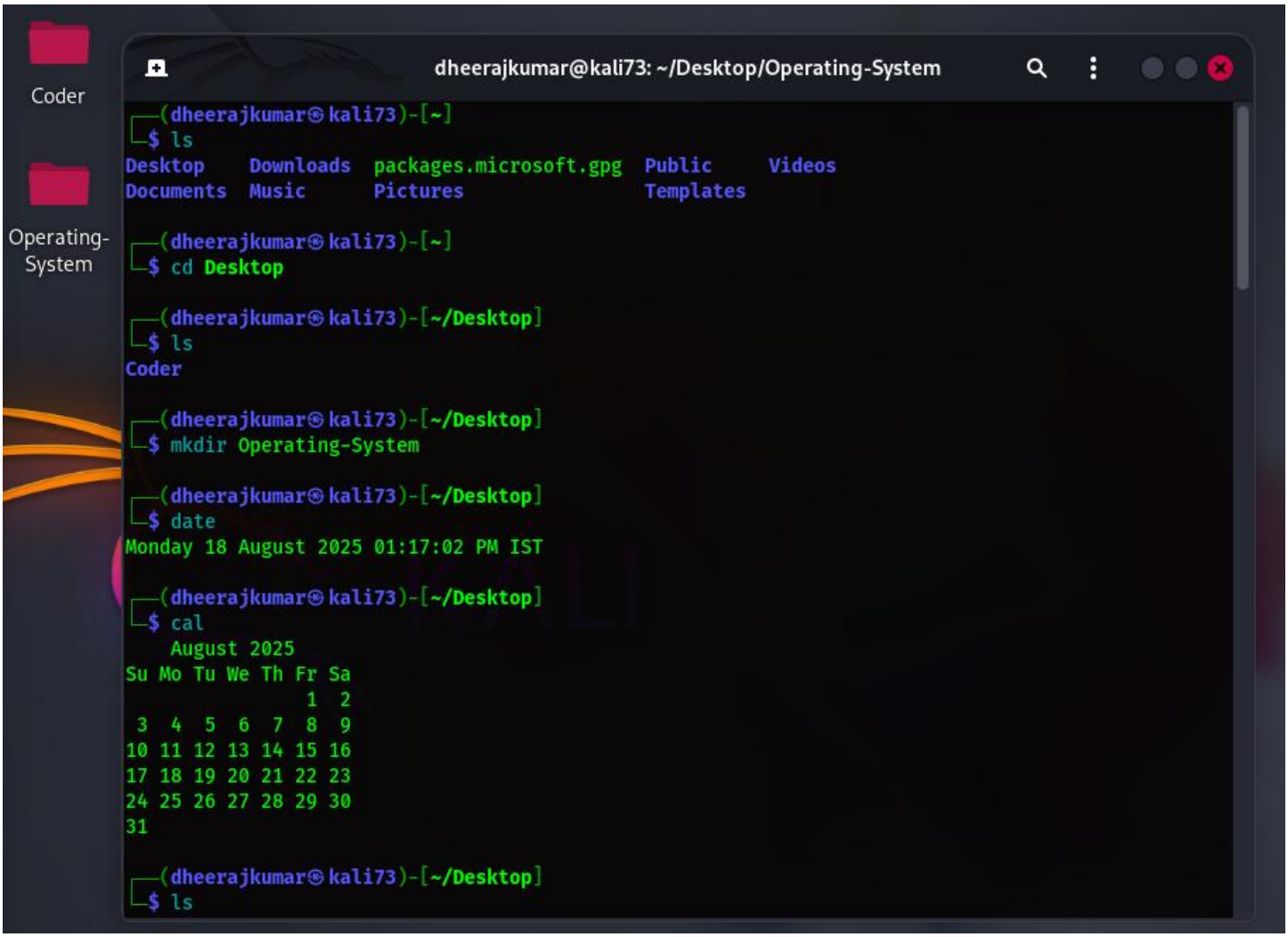
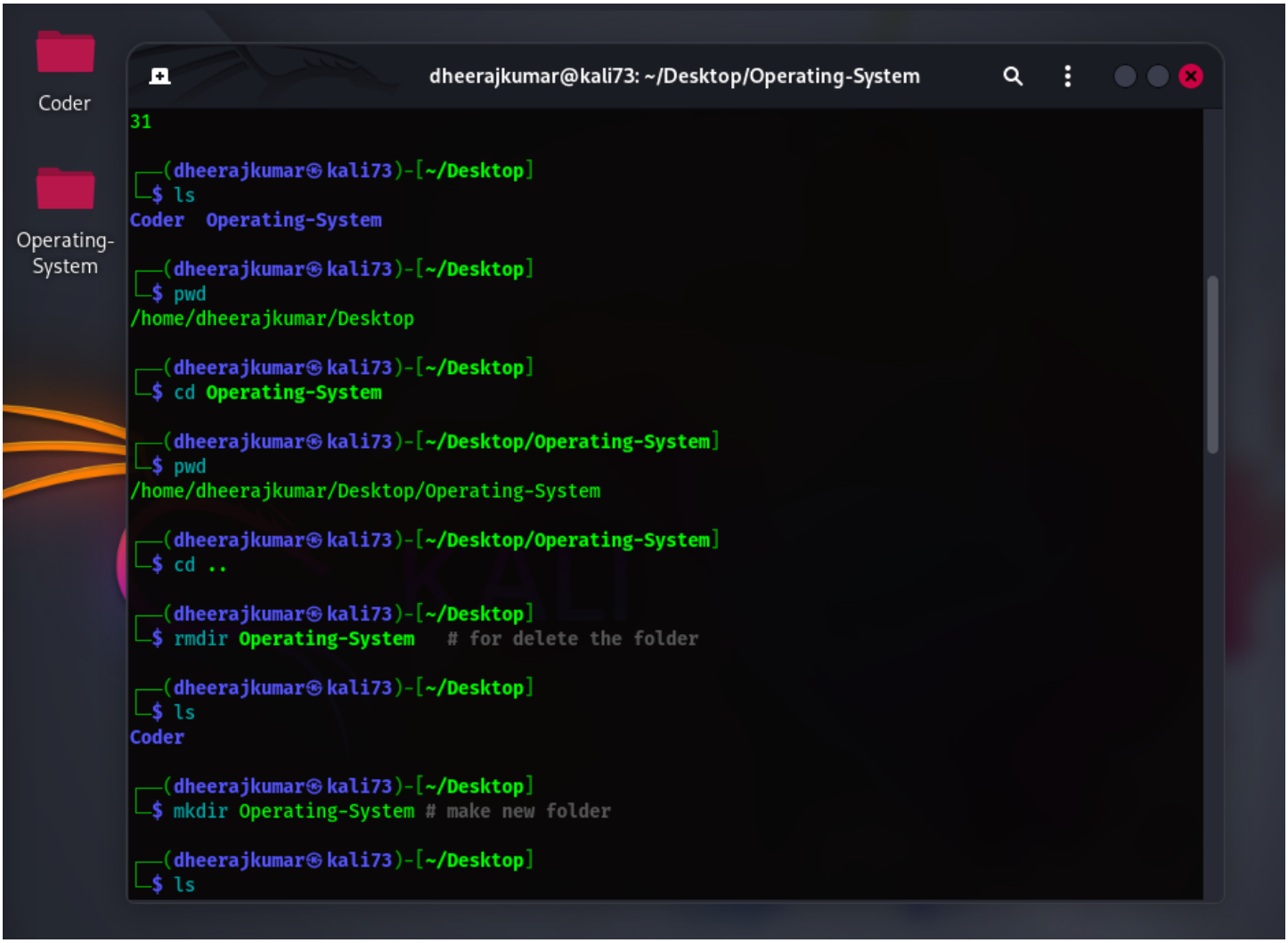
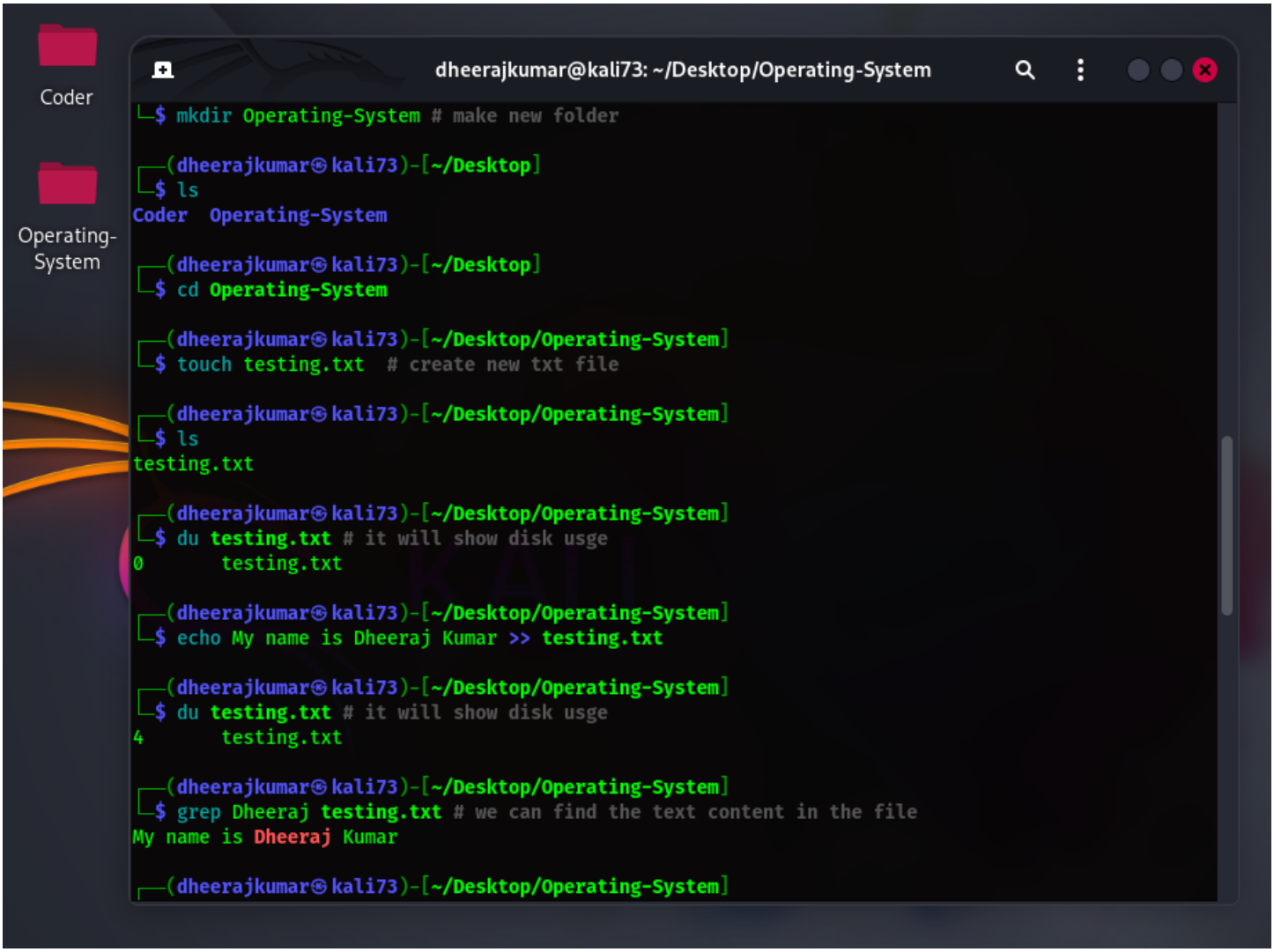
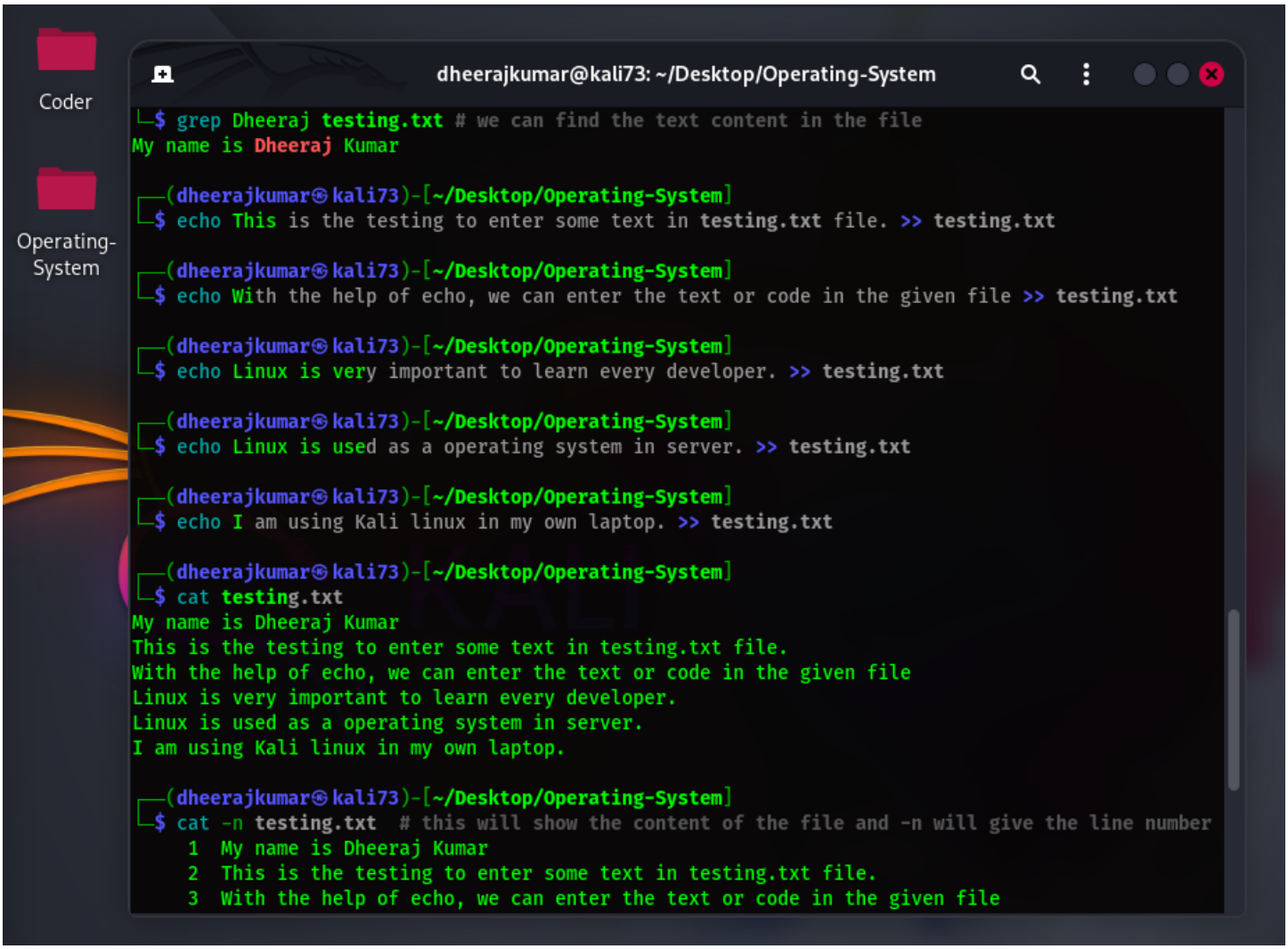
Operating System (MCA)

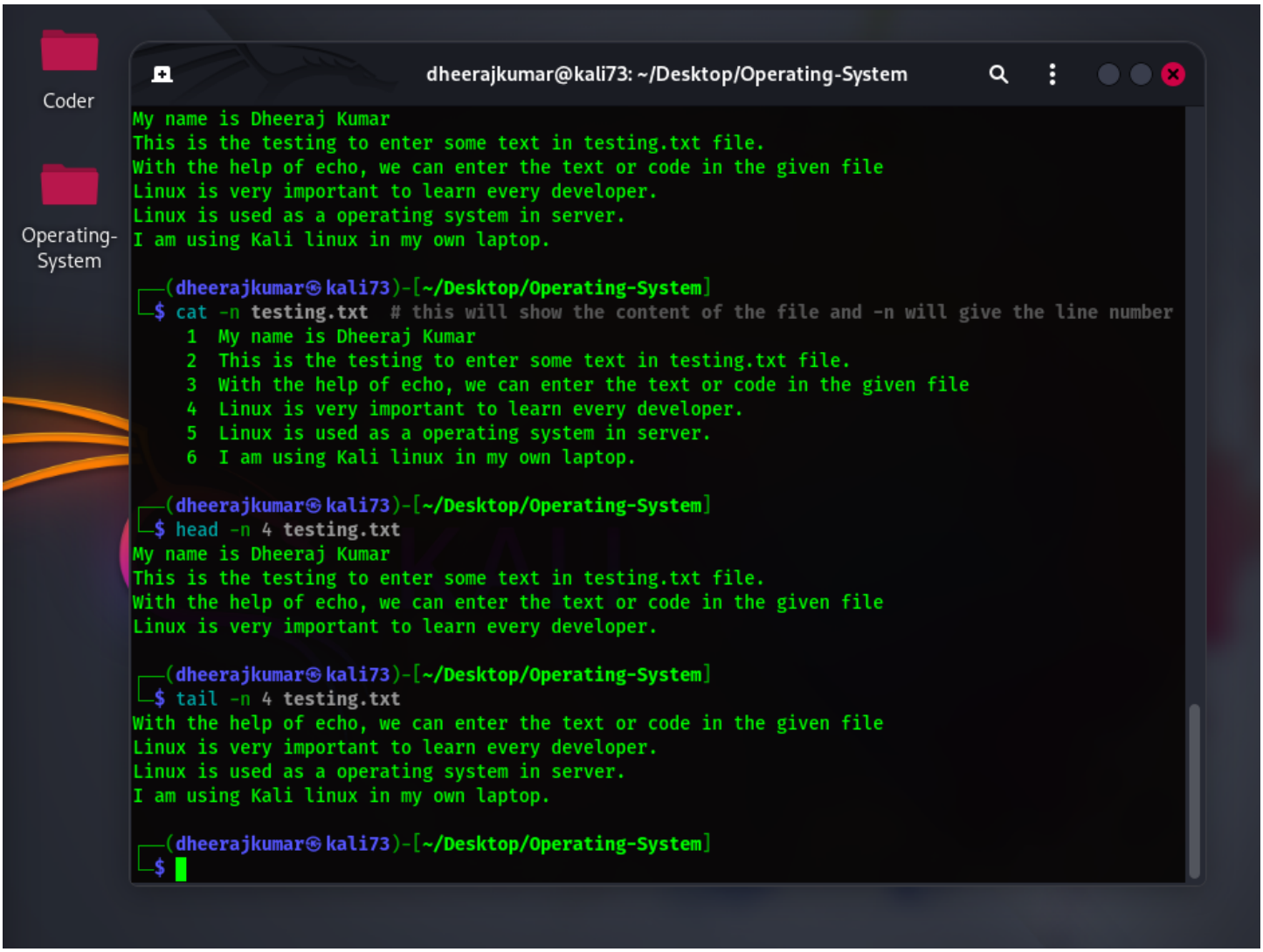
Date: - 11/08/2025




Coder
Operating-System
dheerajkumar@kali73: ~/Desktop/Operating-System
31
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ ls
Coder Operating-System
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ pwd
/home/dheerajkumar/Desktop
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ cd Operating-System
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ pwd
/home/dheerajkumar/Desktop/Operating-System
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ cd ..
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ rmdir Operating-System   # for delete the folder
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ ls
Coder
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ mkdir Operating-System # make new folder
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ ls


Coder
Operating-System
dheerajkumar@kali73: ~/Desktop/Operating-System
└─$ mkdir Operating-System # make new folder
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ ls
Coder Operating-System
┌──(dheerajkumar㉿kali73)-[~/Desktop]
└─$ cd Operating-System
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ touch testing.txt # create new txt file
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ ls
testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ du testing.txt # it will show disk usge
0 testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo My name is Dheeraj Kumar >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ du testing.txt # it will show disk usge
4 testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ grep Dheeraj testing.txt # we can find the text content in the file
My name is Dheeraj Kumar
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]


Coder
Operating-System
dheerajkumar@kali73: ~/Desktop/Operating-System
└─$ grep Dheeraj testing.txt # we can find the text content in the file
My name is Dheeraj Kumar
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo This is the testing to enter some text in testing.txt file. >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo With the help of echo, we can enter the text or code in the given file >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo Linux is very important to learn every developer. >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo Linux is used as a operating system in server. >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ echo I am using Kali linux in my own laptop. >> testing.txt
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ cat testing.txt
My name is Dheeraj Kumar
This is the testing to enter some text in testing.txt file.
With the help of echo, we can enter the text or code in the given file
Linux is very important to learn every developer.
Linux is used as a operating system in server.
I am using Kali linux in my own laptop.
┌──(dheerajkumar㉿kali73)-[~/Desktop/Operating-System]
└─$ cat -n testing.txt # this will show the content of the file and -n will give the line number
1 My name is Dheeraj Kumar
2 This is the testing to enter some text in testing.txt file.
3 With the help of echo, we can enter the text or code in the given file



Commands

- **ls: -** List all the file and folder inside the path.
- **cd: -** Change directory.
- **cd .. : -** Change directory one step back
- **cd ~ :-** the command cd ~ is used to change the current working directory to the user's home directory. If you are currently in /usr/local/bin and you type cd ~, you will be returned to your home directory, which might be something like /home/your_username**.**
- **date: -** It will show the current date.
- **cal: -** It will show the calendar.
- **pwd: -** Present working directory.
- **mkdir: -** Make directory.
- **touch: -** Make file any of the type. For Example if you want to create testing.txt then write touch testing.txt
- **rmdir:** - Remove directory.
- **rm: -** Remove file
- **du:** - The du command in Linux is a powerful utility used to estimate and display the disk space usage of files and directories. It stands for "disk usage".

- **echo: -** The echo command is used to display a line of text. You can redirect its output to a file using the > or >> operators.

  echo "This text will overwrite the file." > filename.txt
- **cat: -** The cat command in Linux is a versatile and fundamental command-line utility used for handling files. Its name, "cat", is short for "concatenate", reflecting its original purpose of combining files.

  Useful options

  The cat command offers several options to customize its behavior:
  - -n or --number: Numbers all output lines.
  - -b or --number-nonblank: Numbers only non-empty output lines.
  - -s or --squeeze-blank: Suppresses multiple adjacent blank lines, replacing them with a single blank line.
  - -E or --show-ends: Displays a dollar sign ($) at the end of each line, indicating line endings.
  - -T or --show-tabs: Displays tab characters as ^I.
  - -A or --show-all: Combines the functionality of -v, -E, and -T.
  - -v or --show-nonprinting: Displays non-printing characters (except tabs and newlines) using ^ and M- notation

- **head: -** The head command in Linux is a command-line utility used to display the first few lines of one or more text files. It's useful for quickly inspecting the contents of a large file or the output of a command.

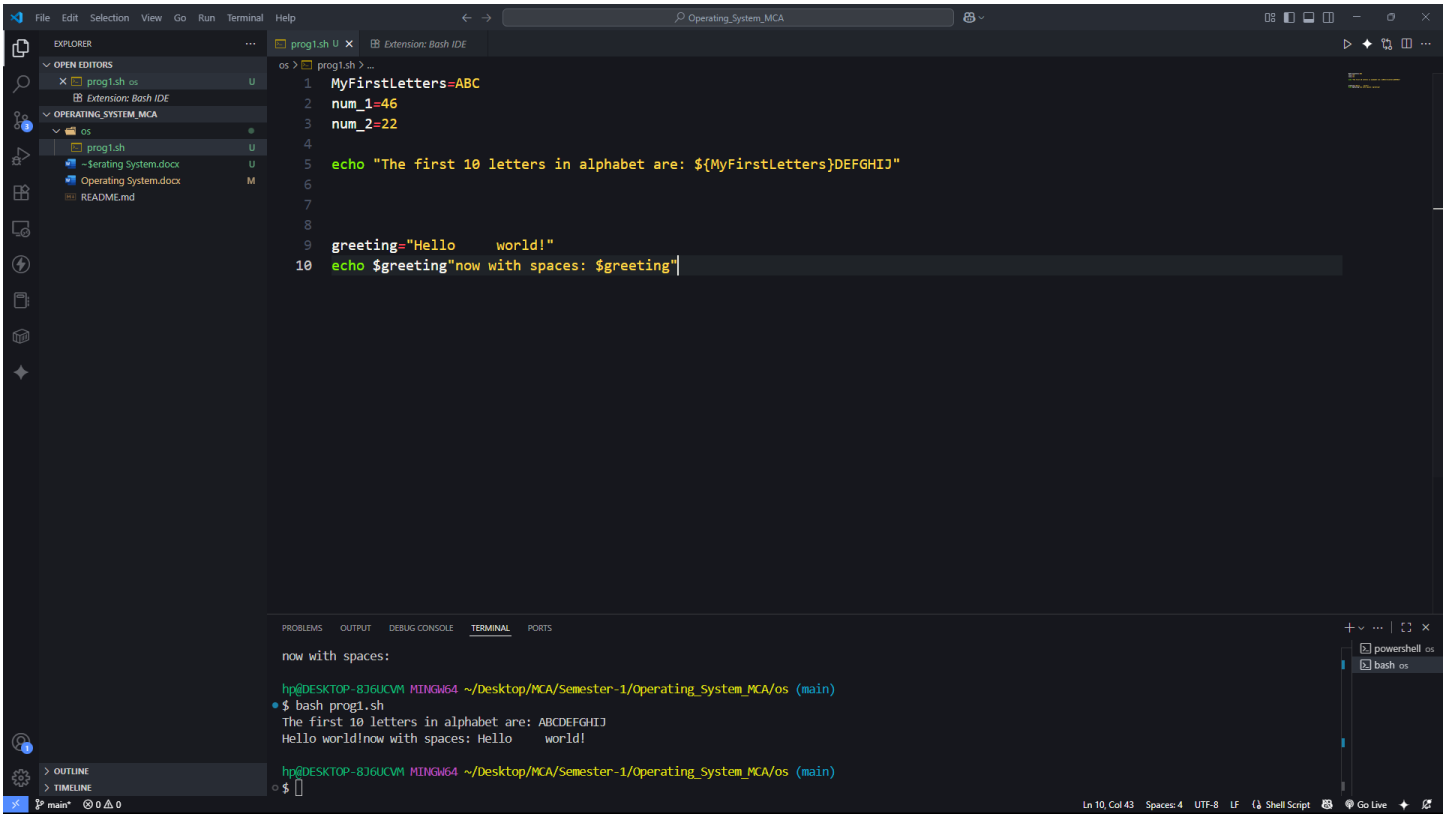
  head -n 5 filename.txt # Displays the first 5 lines
  head -c 20 filename.txt # Displays the first 20 bytes

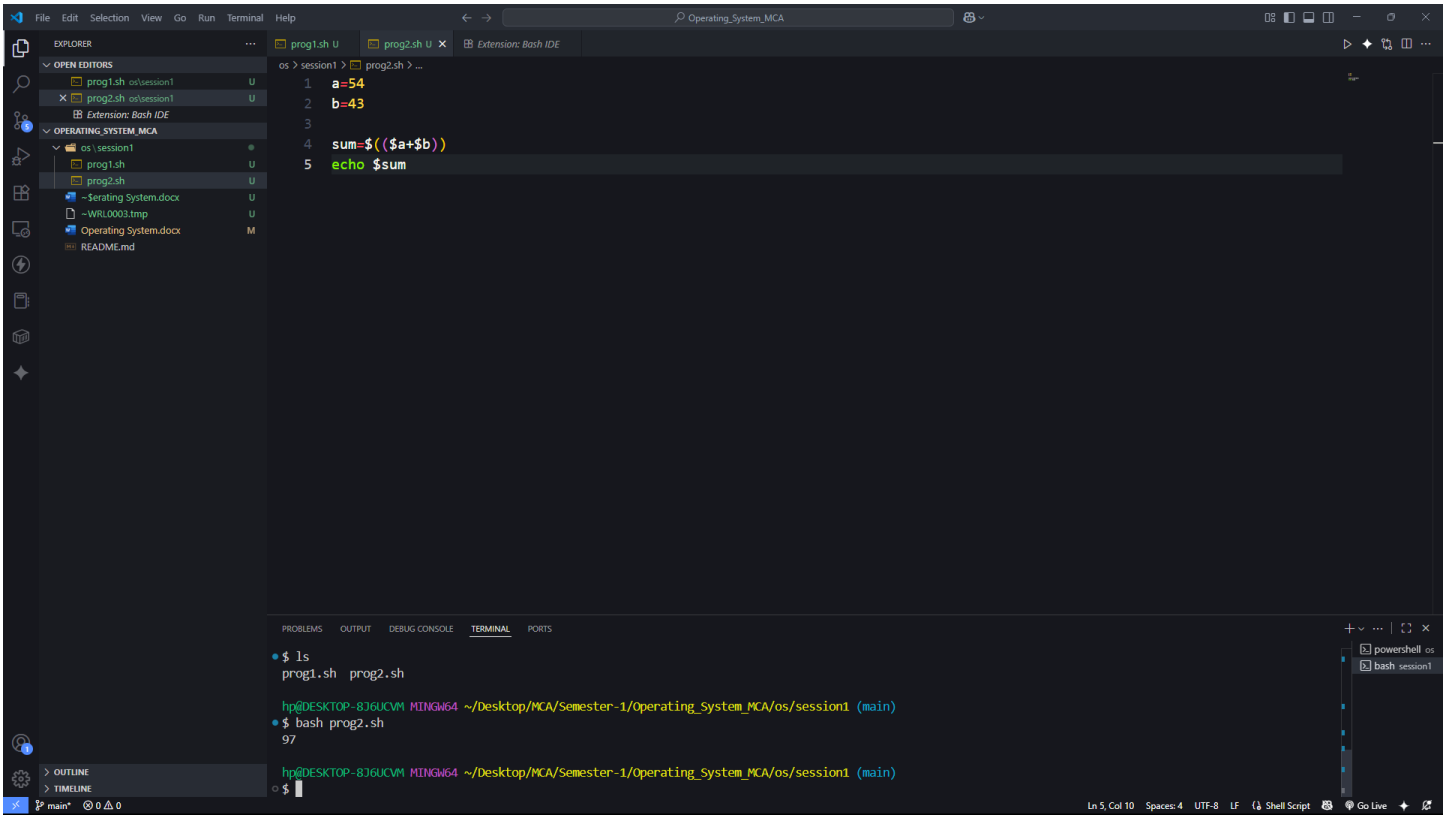
  Useful options
  - -n <number>: Specifies the number of lines.
  - -c <number>: Specifies the number of bytes.
  - -q or --quiet: Suppresses the filename header for multiple files.
  - -v or --verbose: Always displays the filename header.

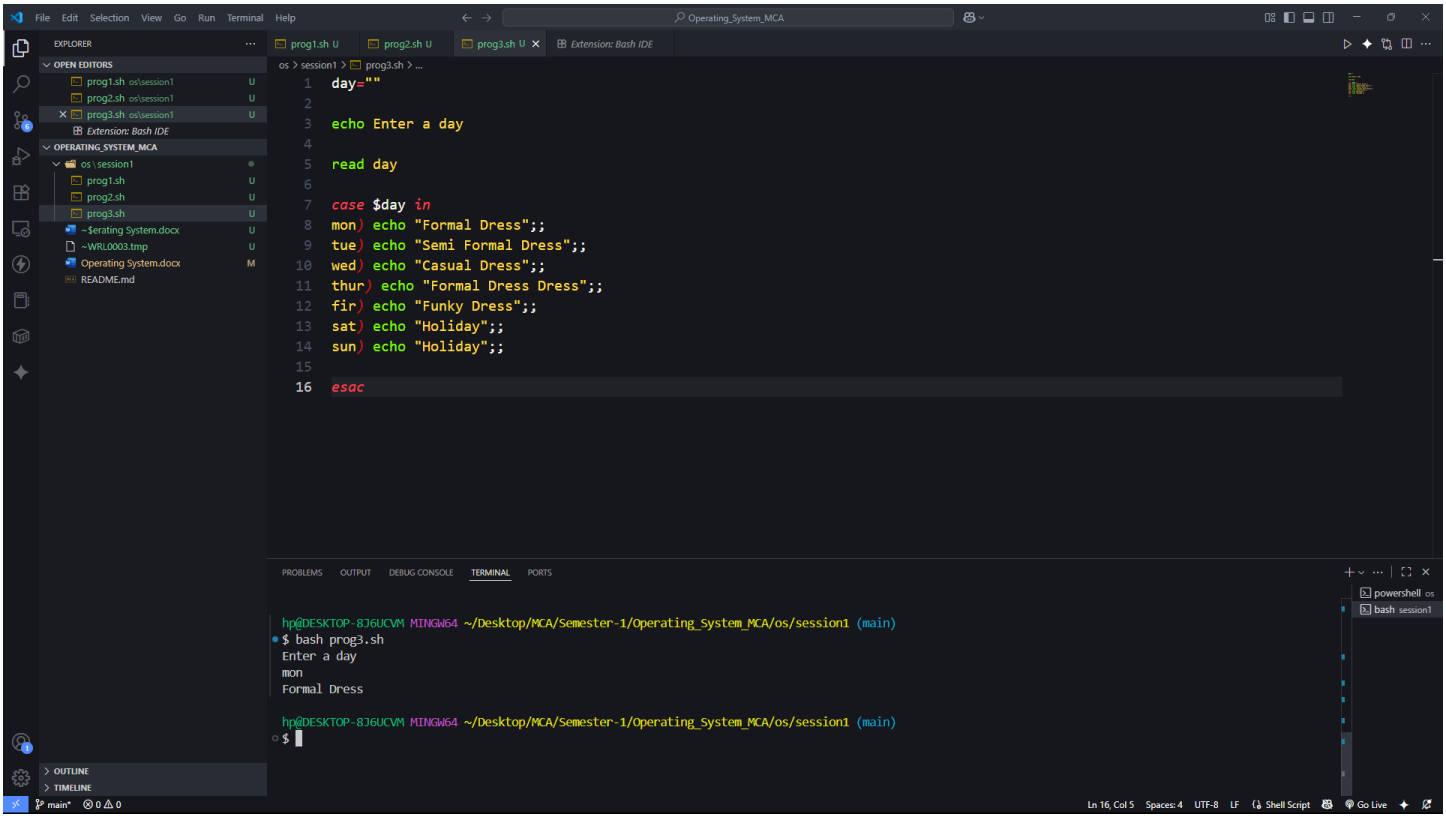
- **tail: -** The tail command in Linux is a command-line utility used to display the last part of a file or files. By default, it shows the last 10 lines of the input. It's essentially the inverse of the head command, which shows the beginning lines of a file.

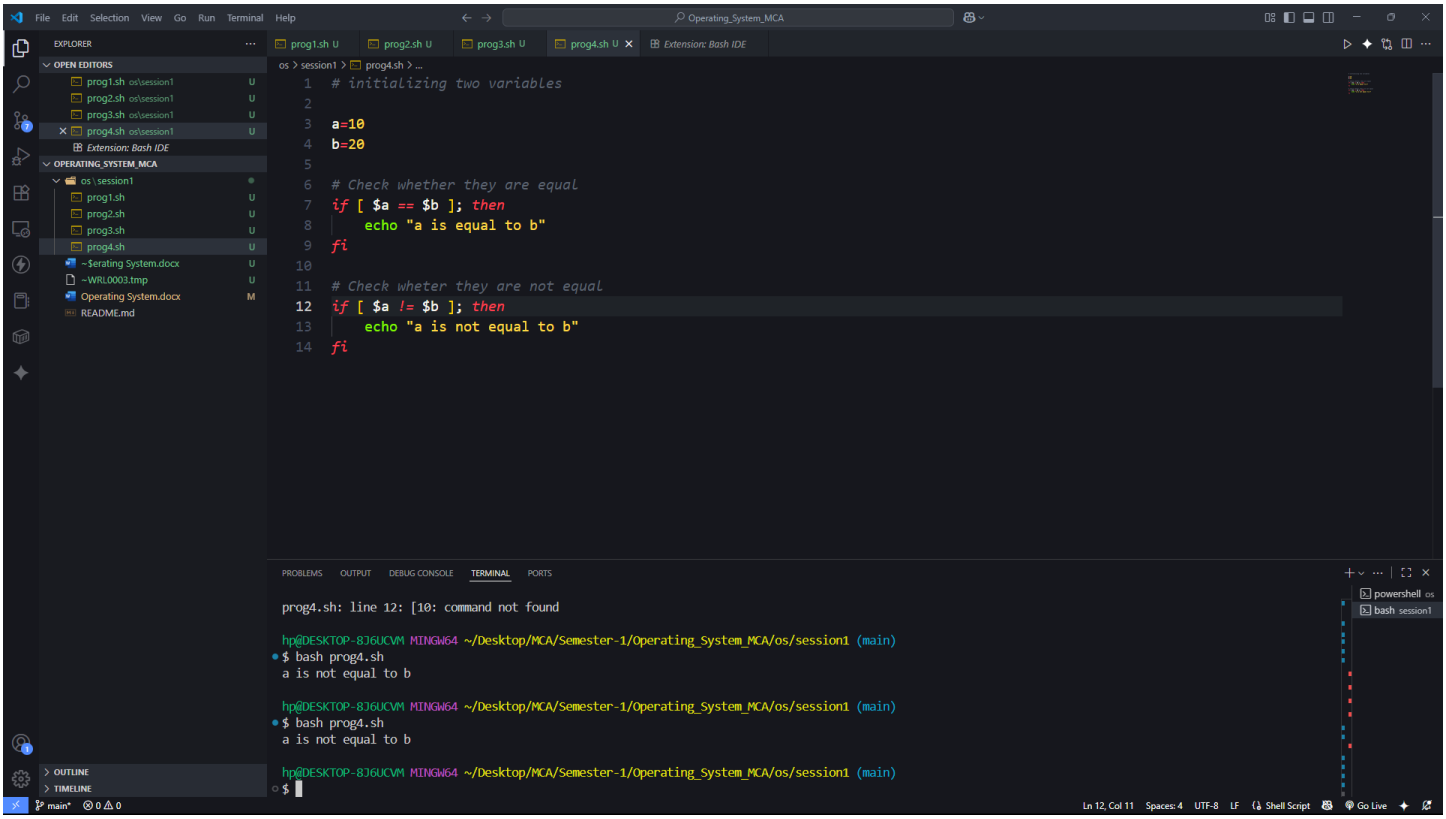
  tail filename.txt

  This command outputs the last 10 lines of filename.txt to your terminal.
- tail -n 4 filename.txt: - This will show bottom 4 line of content.


File Edit Selection View Go Run Terminal Help
Operating_System_MCA
EXPLORER
OPEN EDITORS
prog1.sh os U
Extension: Bash IDE
OPERATING_SYSTEM_MCA
os
prog1.sh U
~$erating System.docx U
Operating System.docx M
README.md
prog1.sh U
Extension: Bash IDE
os > prog1.sh > ...
1 MyFirstLetters=ABC
2 num_1=46
3 num_2=22
4
5 echo "The first 10 letters in alphabet are: ${MyFirstLetters}DEFGHIJ"
6
7
8
9 greeting="Hello world!"
10 echo $greeting"now with spaces: $greeting"
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
now with spaces:
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os (main)
$ bash prog1.sh
The first 10 letters in alphabet are: ABCDEFGHIJ
Hello world!now with spaces: Hello world!
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os (main)
$
powershell os
bash os
OUTLINE
TIMELINE
main*
Ln 10, Col 43 Spaces: 4 UTF-8 LF Shell Script Go Live


File Edit Selection View Go Run Terminal Help
Operating_System_MCA
EXPLORER
OPEN EDITORS
prog1.sh os\session1 U
prog2.sh os\session1 U
Extension: Bash IDE
OPERATING_SYSTEM_MCA
os\session1
prog1.sh U
prog2.sh U
~$erating System.docx U
~WRL0003.tmp U
Operating System.docx M
README.md
prog1.sh U
prog2.sh U
Extension: Bash IDE
os > session1 > prog2.sh > ...
1 a=54
2 b=43
3
4 sum=$(($a+$b))
5 echo $sum
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
$ ls
prog1.sh prog2.sh
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog2.sh
97
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$
powershell os
bash session1
OUTLINE
TIMELINE
main*
Ln 5, Col 10 Spaces: 4 UTF-8 LF Shell Script Go Live


File Edit Selection View Go Run Terminal Help
Operating_System_MCA
EXPLORER
OPEN EDITORS
prog1.sh os\session1 U
prog2.sh os\session1 U
prog3.sh os\session1 U
Extension: Bash IDE
OPERATING_SYSTEM_MCA
os \ session1
prog1.sh U
prog2.sh U
prog3.sh U
~$erating System.docx U
~WRL0003.tmp U
Operating System.docx M
README.md
prog1.sh U
prog2.sh U
prog3.sh U
Extension: Bash IDE
os > session1 > prog3.sh > ...
1 day=""
2
3 echo Enter a day
4
5 read day
6
7 case $day in
8 mon) echo "Formal Dress";;
9 tue) echo "Semi Formal Dress";;
10 wed) echo "Casual Dress";;
11 thur) echo "Formal Dress Dress";;
12 fir) echo "Funky Dress";;
13 sat) echo "Holiday";;
14 sun) echo "Holiday";;
15
16 esac
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell os
bash session1
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog3.sh
Enter a day
mon
Formal Dress
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$
OUTLINE
TIMELINE
main* 0 0
Ln 16, Col 5 Spaces: 4 UTF-8 LF Shell Script Go Live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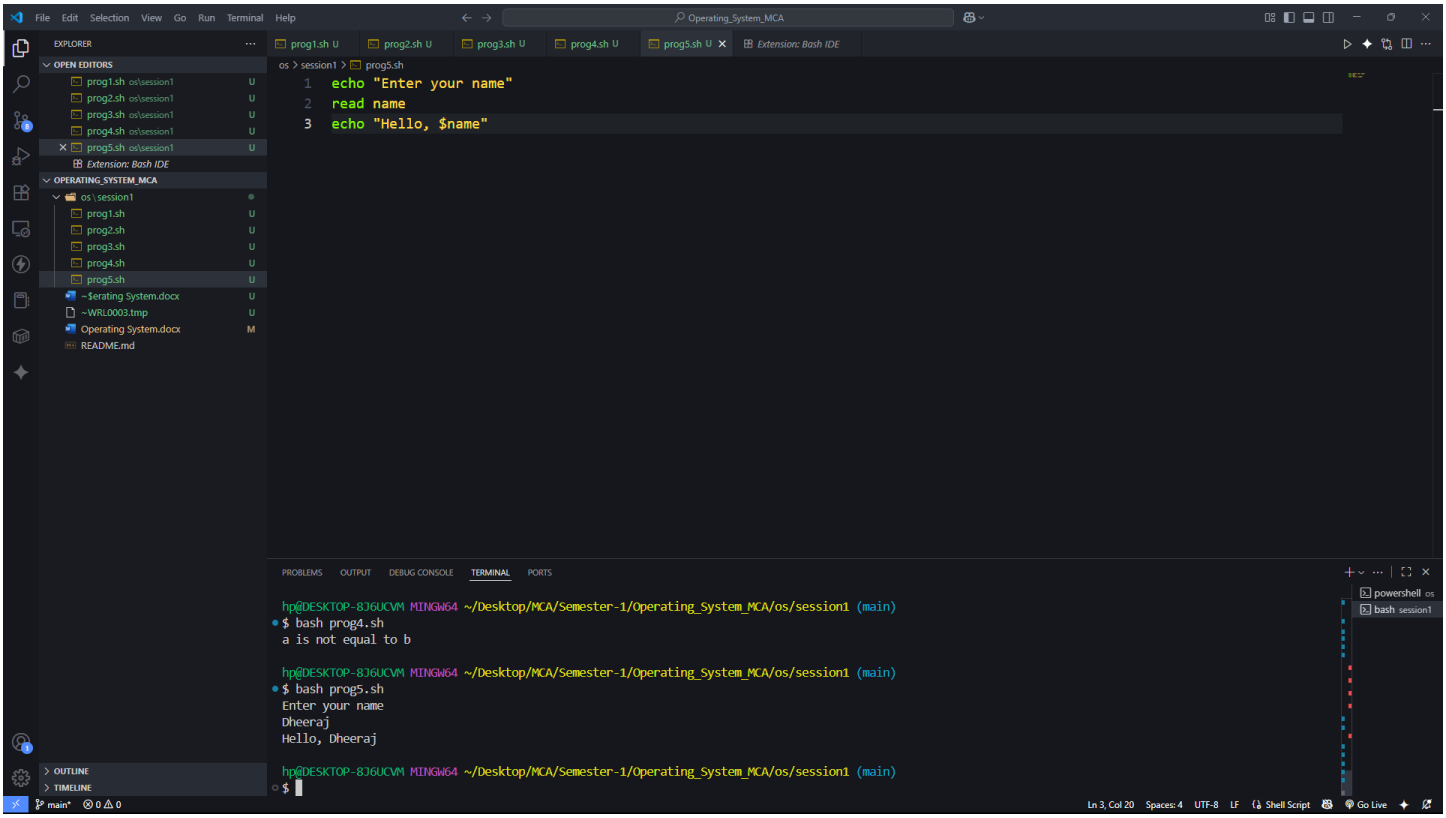
EXPLORER
OPEN EDITORS
prog1.sh os\session1 U
prog2.sh os\session1 U
prog3.sh os\session1 U
prog4.sh os\session1 U
Extension: Bash IDE
OPERATING_SYSTEM_MCA
os \ session1
prog1.sh U
prog2.sh U
prog3.sh U
prog4.sh U
~$erating System.docx U
~WRL0003.tmp U
Operating System.docx M
README.md
prog1.sh U
prog2.sh U
prog3.sh U
prog4.sh U
Extension: Bash IDE
os > session1 > prog4.sh > ...
1 # initializing two variables
2
3 a=10
4 b=20
5
6 # Check whether they are equal
7 if [$a == $b]; then
8 echo "a is equal to b"
9 fi
10
11 # Check wheter they are not equal
12 if [$a != $b]; then
13 echo "a is not equal to b"
14 fi
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
prog4.sh: line 12: [10: command not found
powershell os
bash session1
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog4.sh
a is not equal to b
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog4.sh
a is not equal to b
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$
OUTLINE
TIMELINE
main* 0 0
Ln 12, Col 11 Spaces: 4 UTF-8 LF Shell Script Go Live


File Edit Selection View Go Run Terminal Help
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EXPLORER
OPEN EDITORS
prog1.sh os\session1 U
prog2.sh os\session1 U
prog3.sh os\session1 U
prog4.sh os\session1 U
prog5.sh os\session1 U
Extension: Bash IDE
OPERATING_SYSTEM_MCA
os \ session1
prog1.sh U
prog2.sh U
prog3.sh U
prog4.sh U
prog5.sh U
~$erating System.docx U
~WRL0003.tmp U
Operating System.docx M
README.md
OUTLINE
TIMELINE
prog1.sh U
prog2.sh U
prog3.sh U
prog4.sh U
prog5.sh U
Extension: Bash IDE
os > session1 > prog5.sh
1 echo "Enter your name"
2 read name
3 echo "Hello, $name"
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog4.sh
a is not equal to b
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$ bash prog5.sh
Enter your name
Dheeraj
Hello, Dheeraj
hp@DESKTOP-8J6UCVM MINGW64 ~/Desktop/MCA/Semester-1/Operating_System_MCA/os/session1 (main)
$
powershell os
bash session1
main*
Ln 3, Col 20 Spaces: 4 UTF-8 LF Shell Script
Go Live