Linux Assignment 7: Bash Scripting Fundamentals

1. What is a bash shell script? Give one example. (CO4)

A bash shell script is a text file which contains a series of Linux commands written to be executed by the Bash.

Example:

#!/bin/bash

This is a simple Bash script

echo "Hello, World!"

Terminal Output (Revised):

Aarit@Aarit:~$ gedit hello.sh

Aarit@Aarit:~$ chmod +x hello.sh

Aarit@Aarit:~$ ./hello.sh

Hello, World!

Aarit@Aarit:~$

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2. Write a simple shell script to print "Hello World". (CO4)

#!/bin/bash

This is a simple Bash script

echo "Hello World"

Terminal Output (Revised):

Aarit@Aarit:~$ gedit hello.sh

Aarit@Aarit:~$ chmod +x hello.sh

Aarit@Aarit:~$ ./hello.sh

Hello World

Aarit@Aarit:~$

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3. What is the purpose of comments (#) in a shell script? (CO4)

The purpose of comments (#) in a shell script is to add explanation or notes that make the code easier to understand.

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4. How do you declare variables (int, float, double, string, Boolean, and char) in a shell script? (CO4)

* **For Integers:**
    ```bash
    num1=5
    num2=10
    sum=$((num1 + num2))
    echo "Sum: $sum"
    ```
* **For Float/Double (using bc):**
    ```bash
    a=5.5
    b=2.3
    result=$(echo "$a + $b" | bc)
    echo "Result: $result"
    ```

* **For Boolean:**

  ```bash
  is_valid=true
  if [ "$is_valid" = true ]; then
      echo "Valid!"
  fi
  ```

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5. Write a shell script to display the current date and time of the system. (CO4)

#!/bin/bash

#This script displays the current date and time

echo "Current Date and Time:"

date

Terminal Output (Revised):

Aarit@Aarit:~$ gedit datetime.sh

Aarit@Aarit:~$ chmod +x datetime.sh

Aarit@Aarit:~$ ./datetime.sh

Current Date and Time:

Tue Oct 14 12:30:11 AM IST 2025

Aarit@Aarit:~$

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6. Explain the difference between a constant and a variable in bash script. (CO4)

Constant	Variable
It is a value that cannot be changed one assigned.	It is a value that can change during script execution.
It is declared using the readonly command or declare -r command.	It is assigned normally using =.
It is used when the value need not to be changed.	It is used when the values need to be modified or updated.
Example- readonly PI=3.14.	Example- count=5.

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7. Write a shell script to read two integer numbers from the user and compute the sum of both the number. (CO4)

(Note: The provided answer uses fixed values.)

```bash
num1=5
num2=10
sum=$((num1 + num2))
echo "Sum: $sum"
```