LP - Assignment 7 (Linux Programming)

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

A Bash shell script is a text file containing a sequence of commands for the Bash shell to execute. It automates tasks and can include variables, control structures, and functions.Example:#!/bin/bashecho "Hello from Bash script"

2. Write a simple shell script to print “Hello World”.

Script:#!/bin/bashecho "Hello World"

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

Comments provide explanations and notes for humans reading the script. Lines starting with # are ignored by the shell (except #! at the top which is a shebang).

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

Bash is typeless; variables are strings by default. You assign without types.Examples:name="Aniket" # stringnum=42 # integer-like stringpi="3.1415" # float-like stringflag=true # boolean-like stringchar='A' # single characterTo use arithmetic: num=$((num + 1))To use floating arithmetic, use bc or awk.

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

Script:#!/bin/bash# Display current date and timeecho "Current date and time: $(date '+%Y-%m-%d %H:%M:%S')"

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

A variable can be reassigned during execution. A constant (readonly) is a variable marked with readonly (or declare -r) and cannot be changed afterwards.Example:PI=3.14readonly PI# PI=2.7 # will fail

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

Script:#!/bin/bashread -p "Enter first integer: " aread -p "Enter second integer: " bsum=$((a + b))echo "Sum = $sum"

8. What is the use of source command in shell scripting?

source (or .) runs commands from a file in the current shell environment. It loads variables and functions into the current shell rather than a subshell.Usage: source ./script.sh or . ./script.sh

9. How can you debug a shell script? Give two methods.

Two methods:1) Use set -x (or run bash -x script.sh) to trace command execution.2) Insert echo statements or use set -v to print shell input lines as read.

10. Write a bash script to create and delete a file.

Script:#!/bin/bash# Createfile="tempfile.txt"touch "$file"echo "Created $file"# Deleterm -f "$file"echo "Deleted $file"