

# DAYANANDA SAGAR UNIVERSITY

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Subject: LINUX PROGRAMMING

## Assignment: Bash Shell Scripting

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

A bash shell script is a text file containing a series of commands that are executed by the Linux shell. It is used to automate repetitive tasks.

Example:

```
#!/bin/bash  
echo "This is my first bash script!"
```

### 2. Write a simple shell script to print "Hello World".

```
#!/bin/bash  
echo "Hello World"
```

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

Comments are used to describe the purpose or logic of a script. The shell ignores any text following '#'. They make the code easier to read and maintain.

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

Shell treats all variables as strings by default. Type declaration is not required.

Examples:

```
name="Aman"  
age=21  
pi=3.14  
isStudent=true  
char='A'
```

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

```
#!/bin/bash
echo "Current Date and Time: $(date)"
```

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

A variable's value can be changed during execution, while a constant remains fixed. Constants are usually defined using the 'readonly' keyword.

Example:

```
readonly PI=3.14159
```

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

```
#!/bin/bash
echo "Enter first number:"
read num1
echo "Enter second number:"
read num2
sum=$((num1 + num2))
echo "Sum: $sum"
```

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

The 'source' command executes commands from a file in the current shell environment. It is used to apply variable changes without starting a new shell.

Example: source ~/.bashrc

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

1. Use the -x option while running the script: bash -x script.sh
2. Add 'set -x' at the beginning of the script to trace execution.

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

```
#!/bin/bash
touch testfile.txt
echo "File created"
rm testfile.txt
echo "File deleted"
```