**OPS102 – Lab 6 – Bash Scripting**

**Introduction**

A shell script is a **file** that contains **Unix/Linux commands** and **reserved words** to help **automatic** common tasks.

Total Marks = 40

**Creating and Executing Shell Scripts**

It is recommended to **plan** out on a piece of paper the purpose of the shell script. Once you have planned your shell script by listing the **sequence of steps (commands)**, you need to create a file (using a **text editor**) that will contain your Linux commands.

**NOTE:** Avoid using filenames of already existing Linux Commands to avoid confusion. It is recommended to include a file extension that describes the type of shell for the shell script.

**Activity 1 – Create your first script**

Perform the following steps:

1. Make certain that you are logged into your Matrix account.
2. Issue a Linux command to confirm that you are in your **home** directory.
3. Run the command **echo ‘echo “Hello There!”’ > sayhi**.
4. Run the command **ll**, what do you see? Take a screenshot and paste below.

A screen shot of a computer

Description automatically generated

1. Run the **command cat sayhi**. Take a screenshot and paste below. (5pts)

A screenshot of a computer code

Description automatically generated

1. Now you have successfully created a script, but it is not executable until you set the permission of the script is executable. Run the **command +x sayhi** and **ll**. Take a screenshot an paste below.

A screen shot of a computer

Description automatically generated

1. Now your script is executable. Run it! Take a screenshot and paste below. (5pts)

A screen shot of a computer code

Description automatically generated

1. NOTHING HAPPEN!!! OR NOT WORKING!!!
2. Run echo **$path**. Take a screenshot and paste below.

A black screen with white text

Description automatically generated

1. Run echo **$PAHT.** Take a screenshot and paste below.

A computer screen with text on it

Description automatically generated

1. Find out what does $PATH mean form step 10 screen result. Is environment variable case sensitive? (5pts)

Ans) The $PATH is an environment variable specifying a set of directories where executable programs are located. In general, each executing process or user session has its PATH setting. Yes, environment variables are case sensitive.

1. In order to have the script to run in the current location, you will need to enter “**./sayhi**”. Take a screenshot and paste below. (5pts)

A screenshot of a computer

Description automatically generated

1. Now, the message from script showed up! Run the command **mv sayhi sayhi.sh**, so we know it is a bash script.

A screenshot of a computer

Description automatically generated

**Activity 2 – Where is your program located in the system?**

1. Run the command **which bash**. Take a screenshot and paste below.

A screenshot of a computer

Description automatically generated

1. Run the command **which perl**. Take a screenshot and paste below.

A screenshot of a computer

Description automatically generated

1. Run the command **which python**. Take a screenshot and paste below.

A screenshot of a computer code

Description automatically generated

1. What does which command tell us? (5 pts)

Ans which command is used for locating the paths of executable files in the system. As given above, which perl command tells user the location of the perl executable in the system.

**Activity 3 – Tell the system where is bash is in your script. (shebang)**

Use any text editor you like to add a line for the bash path from Act 2, step 1 with “#!” in the front in your script sayhi.sh. Take a screenshot to show the content of the script. (5 pts)

A screenshot of a computer

Description automatically generated

**Variable**

**Activity 4 – Using Variable (20 pts)**

1. Use any text editor you like insert the following to your script ->
   1. Add **name=**(your first name)
   2. Change **echo “Hello There!”** to echo **“Hello $name!”**
   3. Save it
   4. Run it and take a screenshot and paste below.

A screenshot of a computer code

Description automatically generated

1. If I want to show my full name (first name and last name), how do I change the setting of the variable? Take a screen shot of your change and paste the result below.

A screenshot of a computer screen

Description automatically generated

A screenshot of a computer program

Description automatically generated

1. What if I change the double quote to single quote in the echo command in the script? Amend the code and paste the result below.

A screenshot of a computer

Description automatically generated

1. Explain the difference between using double quote and single quote.

Ans)

* Double quote = Double quote allows a variable to expand inside the string when used. For example

name="Eddy"

echo "Hello, $name!"

Output = Hello, Eddy!

* Single quote = Single quote does not allow a variable to expand inside the string when used. For example

name="Eddy"

echo 'Hello, $name!'

Output = Hello, $name!