Opearting System

Lab 2 (Shell Scripting)

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1. Write a bash script that takes a user's name as input and uses the echo command to greet the user with "Hello, [name]!".

Script –

```
#!/bin/bash
echo 'Enter your name: '
read name
echo "Hello, $name"
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ touch input1.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ chmod +777 input1.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ ./input1.sh
Enter your name:
Harsh
Hello, Harsh
```

2. Write a Bash script that uses the ls command to list all files and directories in the current directory.

Script –

```
#!/bin/bash
ls -al;
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ touch input2.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ chmod +777 input2.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ ./input2.sh
total 64
drwxrwxr-x 2 24ca018 24ca018  4096 Aug  6 14:45 .
drwxrwxr-x 4 24ca018 24ca018  4096 Aug  6 14:12 ..
-rwxrwxrwx 1 24ca018 24ca018    68 Aug  6 14:44 input1.sh
-rw-r--r-- 1 24ca018 24ca018 12288 Aug  6 14:40 .input1.sh.swm
-rw-r--r-- 1 24ca018 24ca018 12288 Aug  6 14:39 .input1.sh.swn
-rw-r--r-- 1 24ca018 24ca018 12288 Aug  6 14:38 .input1.sh.swo
-rw-r--r-- 1 24ca018 24ca018 12288 Aug  6 14:35 .input1.sh.swp
-rwxrwxrwx 1 24ca018 24ca018    20 Aug  6 14:45 input2.sh
```

3. Write a Bash script that prompts the user to input a password, and then checks if the password matches a predefined value. If it does, print "Access granted", otherwise print "Access denied".

Script –

```bash
#!/bin/bash
pass="123"
echo "Hello.... Type your password"
read pwd
if [ $pwd == $pass ];
then echo "Access Granted"
else echo "Access Denied"
fi;
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q3.sh
Hello.... Type your password
123
Access Granted
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q3.sh
Hello.... Type your password
234
Access Denied
```

4. Write a Bash script that uses the cat command to concatenate the contents of two text files ("file1.txt" and "file2.txt") and display the result.
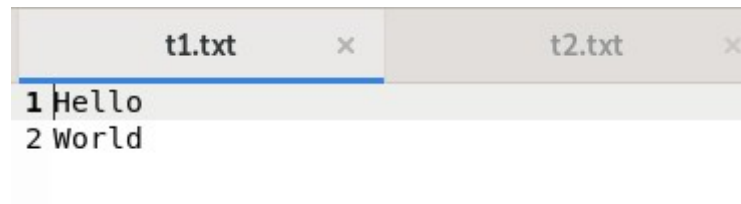
t1.txt –

t1.txt	×	t2.txt	×
1 Hello			

t2.txt –

t1.txt	×	t2.txt	×
1 World			

Script –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ touch t1.txt
24ca018@server2:~/Documents/OS_LAB/lab2$ touch t2.txt
24ca018@server2:~/Documents/OS_LAB/lab2$ touch q4.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ chmod +777 q4.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ cat t2.txt >> t1.txt
```

Output –

```
          t1.txt          ×              t2.txt          ×
       1 Hello
       2 World
```

5. Write a Bash script that checks if a given number is even or odd and prints a message accordingly.

`Script –

```bash
#!/bin/bash
echo "Enter the number : "
read number
if [ $((number % 2)) -eq 0 ];
then echo "Even Number"
else echo "Odd number"
fi
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ touch q5.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ chmod +777 q5.sh
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q5.sh
Enter the number :
23
Odd number
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q5.sh
Enter the number :
22
Even Number
```

6. Write a Bash script that prompts the user to enter a number and checks if it is positive, negative, or zero, and prints a message accordingly.

Script –

```bash
#!/bin/bash
echo "Enter the number : "
read number
if [ $((number)) -lt 0 ];
then echo "Number is Negative"
elif [ $((number)) -gt 0 ];
then echo "Number is Positive"
else echo "Given Number is Zero"
fi
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q6.sh
Enter the number :
23
Number is Positive
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q6.sh
Enter the number :
-23
Number is Negative
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q6.sh
Enter the number :
0
Given Number is Zero
```

7. Write the bash script to find the factorial of a given number by the user.

Script –

```bash
#!/bin/bash
echo "Enter the number : "
read number
echo "Calculating Factorial ----"
fact=1
while [ $((number)) -gt 0 ];
do
        fact=$((fact*number));
        let number--;
done
echo "Factorial of the given number = $fact"
```

Output –

```
24ca018@server2:~/Documents/OS_LAB/lab2$ ./q7.sh
Enter the number :
7
Calculating Factorial ----
Factorial of the given number = 5040
```