Concepts Of Operating System

Class Work (Day-5)

1. p4.sh --> Print number 1 to 5

```
a=0
for a in 1 2 3 4 5
do
echo $a
done
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p4
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p4
1
2
3
4
5
```

2. p5.sh --> Sum from 1 to 5

```
a=0
sum=0
for a in 1 2 3 4 5
do
        echo $a
        sum=$(expr $sum + $a)
done
echo Sum is $sum
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p5
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p5
1
2
3
4
5
Sum is 15
```

3. p6.sh --> Enter argument from command line

```
echo Number of PAram, $#
echo Script Name, $0
echo Hello, $1
echo Hi, $2
echo Ok, $3
echo Bye, $*
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p6
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p6 Rajat Ajay Mohit
Number of PAram, 3
Script Name, p6
Hello, Rajat
Hi, Ajay
Ok, Mohit
Bye, Rajat Ajay Mohit
```

4. p7.sh --> Check equality

```
echo Enter x
read x
echo Enter y
read y
if test $x -eq $y
then
        echo x and y are equal
else
        echo x and y are not equal
fi
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p7
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p7
Enter x
100
Enter y
200
x and y are not equal
```

5. p8.sh --> Check equality of string

```
echo Enter X
read X
echo Enter Y
read Y
if test $X == $Y
then
        echo X and Y are equal
else
        echo X and Y are not equal
fi
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p8
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p8
Enter X
Manoj
Enter Y
Manoj
X and Y are equal
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p8
Enter X
Manoj
Enter Y
Mohan
X and Y are not equal
```

6. p9.sh --> Find which string is greater

```
echo Enter word1
read word1
echo Enter word2
read word2
if [ $word1 \> $word2 ]
then
        echo Word1 is greater
else
        echo Word2 is greater
fi
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p9
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p9
Enter word1
apple
Enter word2
banana
Word2 is greater
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p9
Enter word1
banana
Enter word2
apple
Word1 is greater
```

7. p10.sh --> Take 2 string from command line and compare then lexicographically.

```
if [ $1 == $2 ]
then
        echo $1 is equal to $2
else

        if [ $1 \> $2 ]
        then
                echo $1 is grater than $2
        else
                echo $2 is greater than $1
        fi
fi
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p10
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p10 apple apple
apple is equal to apple
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p10 apple banana
banana is greater than apple
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p10 banana apple
banana is grater than apple
```

8. P11.sh --> Sum of first n odd numbers

```
echo Enter n
read n
i=1
sum=0
until [ $i -gt $n ]
do
        a=$((2*$i - 1))
        sum=$(($sum + $a))
        i=$(($i +1))
done
echo Sum is $sum
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p11
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p11
Enter n
5
Sum is 25
```

9. p12.sh --> Check whether a number is prime or not

```
echo Enter number
read num
for ((i=2; i < $num; i++))
do
        if [ $((num % i)) -eq 0 ]
        then
                echo $num is not a prime number
                exit
        fi
done
echo $num is a prime number
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p12
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p12
Enter number
7
7 is a prime number
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p12
Enter number
10
10 is not a prime number
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p12
Enter number
17
17 is a prime number
```

10. p13.sh --> Fibonacci series upto n terms

```
fibonacci() {
        n=$1
        a=0
        b=1

        for (( i=0; i<n; i++ ))
        do
                echo $a
                next=$((a+b))
                a=$b
                b=$next
        done
}

echo -n "Enter number of terms: "
read n
fibonacci $n
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ nano p13
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p13
Enter number of terms: 5
0
1
1
2
3
```

11. p14.sh --> Factorial of a number

```
echo Enter number
read n
fact=1
for (( i=n; i > 0; i-- ))
do
        fact=$(( fact * i ))
done
echo Factorial of $n is $fact
```

```
cdac@LAPTOP-PLD6211J:~/ShellProgramming$ bash p14
Enter number
5
Factorial of 5 is 120
```