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Course: Operating System

Lab Task 11

<mark>Lab Task1:</mark>

```
Hamza@Ubuntu:~$ mkdir lab11
Hamza@Ubuntu:~$ cd lab11
Hamza@Ubuntu:~/lab11$ touch lab11task1.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task1.sh
```

Code task1:

```
Hamza@Ubuntu:~/lab11$ cat>lab11task1.sh
for((i=1; i<=5; i++))
do
    echo $i
done
```

Running code:

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task1.sh
Hamza@Ubuntu:~/lab11$ ./lab11task1.sh
1
2
3
4
5
```

<mark>Lab Task2:</mark>

```
Hamza@Ubuntu:~/lab11$ touch lab11task2.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task2.sh
for((i=1; i<=5; i++))
do
    for((j=1; j<=5; j++))
do
    echo -n "$i"
    done
done
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task2.sh
Hamza@Ubuntu:~/lab11$ ./lab11task2.sh
1111122222333334444455555Hamza@Ubuntu:~/lab11$
```

Lab task3:

```
1111122222333334444455555Hamza@Ubuntu:~/lab11$ touch lab11task3.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task3.sh
for((i=1; i<=5; i++))
do
    for((j=1; j<=5; j++))
do
    echo -n "$i"
    done
    echo -e
done
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task3.sh
Hamza@Ubuntu:~/lab11$ ./lab11task3.sh
11111
22222
33333
44444
55555
Hamza@Ubuntu:~/lab11$
```

Lab task 4:

```
Hamza@Ubuntu:~/lab11$ touch lab11task4.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task4.sh
for count in 1 2 3
do
     echo " In the loop of $count time"
done
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task4.sh
Hamza@Ubuntu:~/lab11$ ./lab11task4.sh
 In the loop of 1 time
 In the loop of 2 time
 In the loop of 3 time
Hamza@Ubuntu:~/lab11$
```

Lab task 5:

```
Hamza@Ubuntu:~/lab11$ cat>lab11task5.sh
count=1
echo "Name of Planet"
for planet in Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune Pluto
do
    echo $count")" $planet
    count=$( expr $count+1 )
done
```

Output:

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task5.sh
Hamza@Ubuntu:~/lab11$ ./lab11task5.sh
Name of Planet
1) Mercury
2) Venus
3) Earth
4) Mars
5) Jupiter
6) Saturn
7) Uranus
8) Neptune
9) Pluto
```

Lab task 6:

```
Hamza@Ubuntu:~/lab11$ touch lab11task6.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task6.sh
a=1
while test $a -lt 5
do
    echo $a
    a=$( expr $a + 1 )
done
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task6.sh
Hamza@Ubuntu:~/lab11$ ./lab11task6.sh
1
2
3
4
```

```
Hamza@Ubuntu:~/lab11$ touch lab11task7.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task7.sh
#1/bin/sh

#Define your function here
Hello() {
        echo " Hello World"
        }
Hello
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task7.sh
Hamza@Ubuntu:~/lab11$ ./lab11task7.sh
 Hello World
```

```
Hamza@Ubuntu:~/lab11$ touch lab11task8.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task8.sh
#1/bin/sh

#Define your function here
Hello() {
        echo " Hamza Rahim $1 $2 "
        }
Hello  Hamza Rahim #function calling
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task8.sh
```

```
Hamza@Ubuntu:~/lab11$ ./lab11task8.sh
 Hamza Rahim Hamza Rahim
```

Lab task 9:

```
#1/bin/sh

#Define your function here
Hello() {
        echo " Hello World  $1 $2 "
        return 10 #return the value to the main program
        }
Hello Hamza Rahim #function calling
#capture value returned by last command
ret=$?
echo "Return value is $ret"
```

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task9.sh
Hamza@Ubuntu:~/lab11$ ./lab11task9.sh
 Hello World  Hamza Rahim
Return value is 10
```

Write shell script that print following output using while loop only.

9 8 7 6 5 4 3 2 1 0 8 7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 6 5 4 3 2 1 0 5 4 3 2 1 0 4 3 2 1 0 3 2 1 0 2 1 0 1 0 0

```
Hamza@Ubuntu:~/lab11$ touch lab11task11.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task11.sh
#!/bin/bash

i=9
while [ $i -ge 0 ]
do
    j=$i
    while [ $j -ge 0 ]
    do
        echo -n "$j "
        j=$((j - 1))
    done
    echo     # new line after each row
    i=$((i - 1))
done
```

Output:

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task11.sh
Hamza@Ubuntu:~/lab11$ ./lab11task11.sh
9 8 7 6 5 4 3 2 1 0
8 7 6 5 4 3 2 1 0
7 6 5 4 3 2 1 0
6 5 4 3 2 1 0
5 4 3 2 1 0
4 3 2 1 0
3 2 1 0
2 1 0
1 0
0
```

Produce above output again but this time using for loop.

```
Hamza@Ubuntu:~/lab11$ touch lab11tash10.sh
Hamza@Ubuntu:~/lab11$ cat>lab11task10.sh
#!/bin/bash

for (( i=9; i>=0; i-- ))
do
    for (( j=i; j>=0; j-- ))
    do
        echo -n "$j "
    done
    echo     # new line after each row
done
```

Output:

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task10.sh
Hamza@Ubuntu:~/lab11$ ./lab11task10.sh
9 8 7 6 5 4 3 2 1 0
8 7 6 5 4 3 2 1 0
7 6 5 4 3 2 1 0
6 5 4 3 2 1 0
5 4 3 2 1 0
4 3 2 1 0
3 2 1 0
2 1 0
1 0
0
```

Lab task 12:

Write a shell script that takes two numbers as argument from user like ./script 12 13 write add function and pass these argument to that function. calculate sum and return result. then display result at main script.

```
Hamza@Ubuntu:~/lab11$ cat>lab11task12.sh
#!/bin/bash

add() {
    num1=$1
    num2=$2
    sum=$((num1 + num2))
    echo $sum
}

if [ $# -ne 2 ]
then
    echo "Usage: $0 num1 num2"
    exit 1
fi

result=$(add "$1" "$2")

echo "The sum of $1 and $2 is: $result"
```

Output:

```
Hamza@Ubuntu:~/lab11$ chmod u+x lab11task12.sh
Hamza@Ubuntu:~/lab11$ ./lab11task12.sh
Usage: ./lab11task12.sh num1 num2
Hamza@Ubuntu:~/lab11$ ./lab11task12.sh 5 5
The sum of 5 and 5 is: 10
```