



## **Operating System**

### **Lab 11 Tasks**

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**Task 1:**

How do you create a basic for loop in a shell script to iterate over a list of numbers from 1 to 5?

**Solution:**

```
GNU nano 6.2
#!/bin/bash
for (( i=1; i<=5; i++))
do
echo "Number is:$i"
done
```

```
student@student-virtual-machine:~$ pico task1.sh
student@student-virtual-machine:~$ ./task1.sh
Number is:1
Number is:2
Number is:3
Number is:4
Number is:5
student@student-virtual-machine:~$
```

**Task 2:**

What is the syntax for a while loop that counts from 1 to 10 and prints each number?

**Solution:**

```
GNU nano 6.2
#!/bin/bash
i=1
while [ $i -le 10 ]
do
echo "Number is:$i"
i=$((i + 1))
done
```

```
student@student-virtual-machine:~$ pico task2.sh
student@student-virtual-machine:~$ ./task2.sh
Number is:1
Number is:2
Number is:3
Number is:4
Number is:5
Number is:6
Number is:7
Number is:8
Number is:9
Number is:10
student@student-virtual-machine:~$
```

### Task 3:

How would you write a nested loop in shell scripting to print a multiplication table from 1 to 3?

### Solution:

```
GNU nano 6.2
#!/bin/bash
for i in {1..3}
do
for j in {1..3}
do
result=$((i * j))
echo "$i * $j = $result"
done
done
```

```
student@student-virtual-machine:~$ pico task3.sh
student@student-virtual-machine:~$ ./task3.sh
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
student@student-virtual-machine:~$
```

**Task 4:**

Write a for-in loop that iterates over the items in an array named fruits containing apple, banana, and cherry.

**Solution:**

```
GNU nano 6.2
#!/bin/bash
fruits=("apple","banana","cherry")
for fruits in "${fruits[@]}"
do
echo "Fruit:$fruits"
done
```

```
student@student-virtual-machine:~$ pico task4.sh
student@student-virtual-machine:~$ ./task4.sh
Fruit:apple,banana,cherry
student@student-virtual-machine:~$
```

**Task 5:**

Write a while loop that reads user input until the user types "exit".

**Solution:**

```
GNU nano 6.2
#!/bin/bash
while true
do
read -p "Enter no:" no
sleep 2s
done
```

```
student@student-virtual-machine:~$ pico task5.sh
student@student-virtual-machine:~$ ./task5.sh
Enter no:1
Enter no:2
Enter no:3
Enter no:4
Enter no:5
^Z
[2]+  Stopped                  ./task5.sh
student@student-virtual-machine:~$
```

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