

Lab Assignment-07

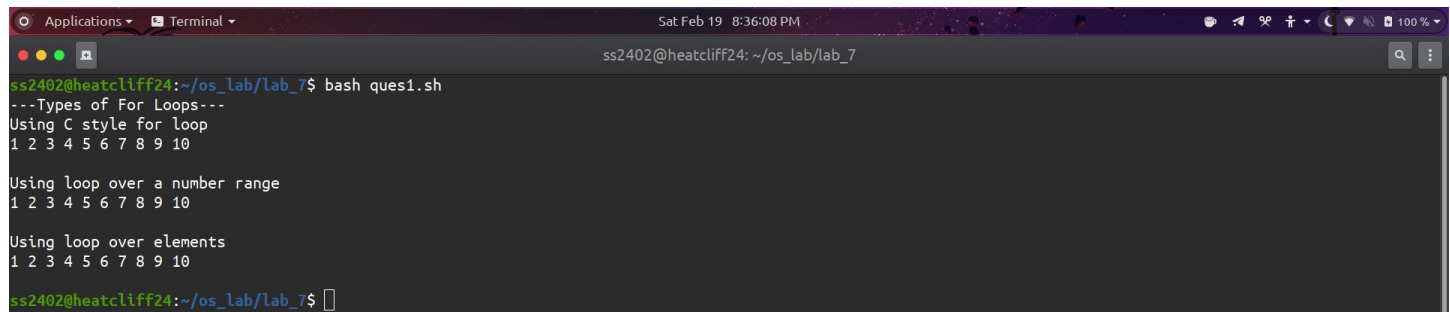
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QUES 1: WASS to show usage of all types of for loops.

SOLUTION:

```
echo "---Types of For Loops---"
echo "Using C style for loop"
for((i=1;i<=10;i++));
do
    echo -n "$i "
done
echo
echo
echo "Using loop over a number range"
for i in {1..10}
do
    echo -n "$i "
done
echo
echo
echo "Using loop over elements"
for i in 1 2 3 4 5 6 7 8 9 10
do
    echo -n "$i "
done
echo
echo
```

OUTPUT:



```
ss2402@heatcliff24:~/os_lab/lab_7$ bash ques1.sh
---Types of For Loops---
Using C style for loop
1 2 3 4 5 6 7 8 9 10

Using loop over a number range
1 2 3 4 5 6 7 8 9 10

Using loop over elements
1 2 3 4 5 6 7 8 9 10

ss2402@heatcliff24:~/os_lab/lab_7$
```

QUES 2: WASS to print the given pattern using loops.

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

SOLUTION:

```
num=1
rows=5
for((i=1; i<=rows; i++))
do
    for((j=1; j<=i; j++))
    do
        echo -n "$num "
        num=$((num + 1))
    done
done
```

```
done
num=1
echo
done
```

OUTPUT:

```
ss2402@heatcliff24: ~/os_lab/lab_7$ bash ques2.sh
1
2
3
4
5
ss2402@heatcliff24: ~/os_lab/lab_7$
```

QUES 3: WASS to print the given pattern using loops.

```
1
2 1
3 2 1
4 3 2 1
5 4 3 2 1
```

SOLUTION:

```
num=1
rows=5
for((i=1; i<=rows; i++))
do
    for((j=1; j<=rows - i; j++))
    do
        echo -n " "
    done
    for((j=i; j>=1; j--))
    do
        echo -n "$j "
    done
    echo
done
```

OUTPUT:

```
ss2402@heatcliff24: ~/os_lab/lab_7$ bash ques3.sh
1
2 1
3 2 1
4 3 2 1
5 4 3 2 1
ss2402@heatcliff24: ~/os_lab/lab_7$
```

QUES 4: WASS to print the given pattern using loops.

```
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
```

SOLUTION:

```
for((i=1;i<=4;i++));
do
    for((j=4;j>i;j--));
    do
        echo -n " "
    done
```

```

for((k=1;k<=i;k++));
do
    echo -n "$k "
done
for((l=i-1;l>=1;l--));
do
    echo -n "$l "
done
echo -e ""
done

```

OUTPUT:

```

ss2402@heatcliff24: ~/os_lab/lab_7
ss2402@heatcliff24:~/os_lab/lab_7$ bash ques4.sh
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
ss2402@heatcliff24:~/os_lab/lab_7$

```

QUES 5: WASS to print the given pattern using loops.

```

      *
     * *
    * * *
   * * * *
  * * * *
 * * * *
* * * *

```

SOLUTION:

```

rows=4
for((i=1;i<=rows;i++));
do
    for((j=1;j<=rows-i;j++));
    do
        echo -n " "
    done
    for((j=1;j<=i;j++));
    do
        echo -n "x "
    done
    echo -e ""
done
for((i=rows-1;i>=1;i--));
do
    for((j=1;j<=rows-i;j++));
    do
        echo -n " "
    done
    for((j=1;j<=i;j++));
    do
        echo -n "x "
    done
    echo -e ""
done

```

OUTPUT:

```

Applications Terminal Sat Feb 19 8:36:34 PM
ss2402@heatcliff24: ~/os_lab/lab_7
ss2402@heatcliff24:~/os_lab/lab_7$ bash ques5.sh
  x
 x x
x x x
 x x x
  x x
   x
ss2402@heatcliff24:~/os_lab/lab_7$

```

QUES 6: WASS to print the given pattern using loops.

A
AB
ABC
ABCD
ABCDE
SOLUTION:

```

rows=5
chars=( {A..Z} )
for((i=1;i<=rows;i++));
do
    for((j=0;j<i;j++));
    do
        echo -n "${chars[j]}"
    done
    echo -e "\n"
done

```

OUTPUT:

```

Applications Terminal Sat Feb 19 8:36:40 PM
ss2402@heatcliff24: ~/os_lab/lab_7
ss2402@heatcliff24:~/os_lab/lab_7$ bash ques6.sh
A
AB
ABC
ABCD
ABCDE
ss2402@heatcliff24:~/os_lab/lab_7$

```