

Lab Assignment-06

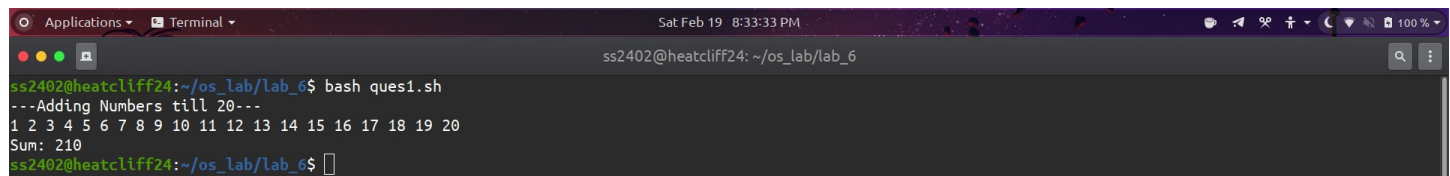
ROLL: 2005535 | NAME: SAHIL SINGH | DATE: 08/02/22

QUES 1: Write a Shell Script to add all the numbers from 1 to 20.

SOLUTION:

```
echo "---Adding Numbers till 20---"
i=0
until [ $i -eq 20 ]
do
    i=`expr $i + 1`
    echo -n "$i "
    s=`expr $s + $i`
done
echo ""
echo "Sum: $s"
```

OUTPUT:



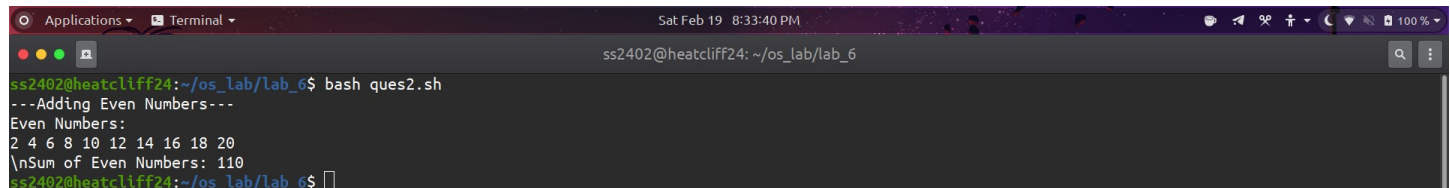
```
ss2402@heatcliff24: ~/os_lab/lab_6
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques1.sh
---Adding Numbers till 20---
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Sum: 210
ss2402@heatcliff24:~/os_lab/lab_6$
```

QUES 2: WASS to add all the even numbers from 1 to 20.

SOLUTION:

```
echo "---Adding Even Numbers---"
i=0
s=0
echo "Even Numbers: "
until [ $i -eq 20 ]
do
    i=`expr $i + 1`
    if [ `expr $i % 2` -eq 0 ]
    then
        s=`expr $s + $i`
        echo -n "$i "
    fi
done
echo ""
echo "\nSum of Even Numbers: $s"
```

OUTPUT:



```
ss2402@heatcliff24: ~/os_lab/lab_6
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques2.sh
---Adding Even Numbers---
Even Numbers:
2 4 6 8 10 12 14 16 18 20
\nSum of Even Numbers: 110
ss2402@heatcliff24:~/os_lab/lab_6$
```

QUES 3: WASS to add all the numbers from 1 to n.

SOLUTION:

```
echo "---Adding n Numbers---"
read -p "Enter n: " n
i=0
```

```
s=0
until [ $i -eq $n ]
do
    i=`expr $i + 1`
    echo -n "$i "
    s=`expr $s + $i`
    if [ $i -eq $n ]
    then
        break
    fi
done
echo ""
echo "Sum: $s"
```

OUTPUT:

```
ss2402@heatcliff24: ~/os_lab/lab_6
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques3.sh
---Adding n Numbers---
Enter n: 10
1 2 3 4 5 6 7 8 9 10
Sum: 55
ss2402@heatcliff24:~/os_lab/lab_6$
```

QUES 4: WASS to print all the natural numbers between 1 to n in reverse order.

SOLUTION:

```
echo "---Printing 1 to n Numbers in reverse---"
read -p "Enter n: " n
i=0
until [ $n -eq $i ]
do
    echo -n "$n "
    n=`expr $n - 1`
done
echo ""
```

OUTPUT:

```
ss2402@heatcliff24: ~/os_lab/lab_6
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques4.sh
---Printing 1 to n Numbers in reverse---
Enter n: 10
10 9 8 7 6 5 4 3 2 1
ss2402@heatcliff24:~/os_lab/lab_6$
```

QUES 5: WASS to print all the natural numbers between 1 to 100 in different line, the user enter how many elements want to print in a line.

SOLUTION:

```
echo "---Print numbers till 100---"
read -p "Enter how many elements to print in a line: " n
i=0
while [ $i -le 100 ]
do
    j=1
    while [ $j -le $n ]
    do
        echo -n "$i "
        i=`expr $i + 1`
        j=`expr $j + 1`
    done
```

```
echo ""
done
```

OUTPUT:

```
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques5.sh
---Print numbers till 100---
Enter how many elements to print in a line: 15
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
45 46 47 48 49 50 51 52 53 54 55 56 57 58 59
60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
90 91 92 93 94 95 96 97 98 99 100 101 102 103 104
ss2402@heatcliff24:~/os_lab/lab_6$
```

QUES 6: WASS to read a number then check if it is prime or not.

SOLUTION:

```
echo "---Prime Number Check---"
read -p "Enter the number: " num
i=2
count=0
while test $i -le `expr $num / 2`
do
    if [ `expr $num % $i` -eq 0 ]
    then
        count=1
    fi

    i=`expr $i + 1`
done
if [ $count -eq 1 ]
then
    echo "Not a Prime Number"
else
    echo "Prime Number"
fi
```

OUTPUT:

```
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques6.sh
---Prime Number Check---
Enter the number: 13
Prime Number
ss2402@heatcliff24:~/os_lab/lab_6$
```

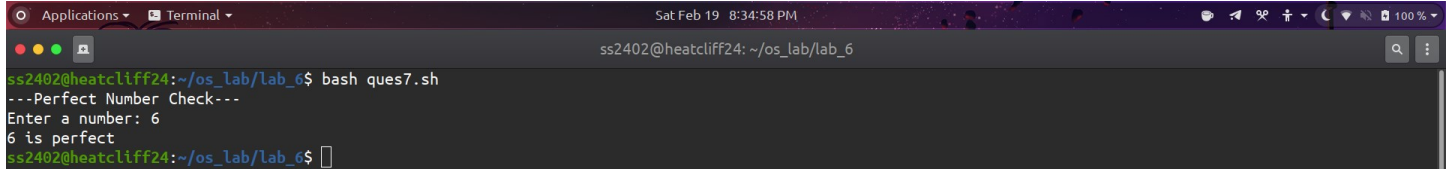
QUES 7: WASS to enter a number and check the number is perfect number or not.

SOLUTION:

```
echo "---Perfect Number Check---"
read -p "Enter a number: " num
i=1
res=0
while [ $i -le `expr $num / 2` ]
do
    if [ `expr $num % $i` -eq 0 ]
    then
        res=`expr $res + $i`
    fi
    i=`expr $i + 1`
done
```

```
done
if [ $num -eq $res ]
then
    echo "$num is perfect"
else
    echo "$num is not perfect"
fi
```

OUTPUT:

A screenshot of a terminal window. The title bar shows 'Applications' and 'Terminal' menus, and the date 'Sat Feb 19 8:34:58 PM'. The terminal content shows a user running a script 'ques7.sh' in the directory '~/os_lab/lab_6'. The script outputs '---Perfect Number Check---' and prompts 'Enter a number:'. The user enters '6', and the script outputs '6 is perfect'.

```
ss2402@heatcliff24:~/os_lab/lab_6$ bash ques7.sh
---Perfect Number Check---
Enter a number: 6
6 is perfect
ss2402@heatcliff24:~/os_lab/lab_6$
```
