

Question 1 :

Description - To read n and generate a below pattern

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

```
saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 01_pattern.sh
#!/bin/bash

echo "Enter the value of n : "
read n

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

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./01_pattern.sh
Enter the value of n :
6
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$
```

Question 2 :

Description-To read n and generate a below pattern

```
1
2 3
4 5 6
7 8 9 10
```

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 02_pattern.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 02_pattern.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 02_pattern.sh
#!/bin/bash

echo -n "Enter the value of n : "
read n
k=1;
for(( i=1; i<=n; i++ ))
do
    for(( j=1; j<=i; j++ ))
    do
        echo -n "$k "
        ((k++))
    done
    echo ""
done

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```

```
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(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 02_pattern.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 02_pattern.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 02_pattern.sh
#!/bin/bash

echo -n "Enter the value of n : "
read n
k=1;
for(( i=1; i<=n; i++ ))
do
    for(( j=1; j<=i; j++ ))
    do
        echo -n "$k "
        ((k++))
    done
    echo ""
done

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./02_pattern.sh
Enter the value of n : 4
1
2 3
4 5 6
7 8 9 10

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$
```

Question3 :

Description-Script for addition of two real numbers

Input- bash 03_real_add.sh

Enter the numbers to addition: 4.28 1.21

Output- The sum of 4.28 and 1.21 is 5.49

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 03_real_add.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 03_real_add.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 03_real_add.sh
#!/bin/bash

read -p "Enter the numbers to addition : " num1 num2

sum=$(echo "$num1 + $num2" | bc )

echo "The addition number $1 and $2 is $sum"

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./03_real_add.sh
Enter the numbers to addition : 1.22 1.23
The addition number and is 2.45

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$
```

Question4:

Description- Script for arithmetic calculator using command line arguments

Input- bash 04_calculator.sh 1.2 + 2.6

Output- The sum of 1.2 and 2.6 is 3.8

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions
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$ vi 04_calculator.sh
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 04_calculator.sh
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 04_calculator.sh
#!/bin/bash

num1=$1
num2=$2

sum=$(echo "$num1 + $num2" | bc)

echo "The addition of number $1 and $2 is $sum"
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./04_calculator.sh 1.22 1.24
The addition of number 1.22 and 1.24 is 2.46
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$
```

Question5:

Description- Script to compare larger integer values from a 'n' number of arguments using command line arguments

Input- bash 05_largest.sh 1 3 8 6 5 7 9 2

Output- The largest value is 9

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 05_largest.sh
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 05_largest.sh
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 05_largest.sh
#!/bin/bash

#Setting first num as max
max=$1

#By using $@ we can iterate through all the elements added from command line
for i in "$@"
do
    #Compared each num with max
    if [ $i -gt $max ]
    then
        max=$i
    fi
done

echo "The largest number from given input is $max"
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./05_largest.sh 1 3 8 7 6 5 9 2
The largest number from given input is 9
(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$
```

Question6:

Description- Script to print a given number in reverse order.

Input- bash 06_reverse.sh 639872

Output- The reversed number of entered number is 278936

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 06_reverse.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 06_reverse.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./06_reverse.sh 639872
The reverse of given number is 278936

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 06_reverse.sh
#!/bin/bash

number=$1

reversenumber=$(echo " $1 " | rev )

echo "The reverse of given number is $reversenumber"

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./06_reverse.sh 639872
The reverse of given number is 278936

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$
```

Question7:

Description- Script to delete empty lines from a file

Input- bash 07_delete_empty_lines.sh file.txt

Output- All empty lines of the file file.txt will be deleted

Before script running, content of the file file.txt :

Hello, I am Siddaling.

I am from Belgaum.

I studied B-Tech in ECE.

After script running, content of the file file.txt :

Hello, I am Siddaling.

I am from Belgaum.

I studied B-Tech in ECE.

```
Select saurabh@LenovoLegion5: ~/ShellScripting/ShellQuestions

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi file.txt

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ vi 07_delete_empty_lines.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ chmod u+x 07_delete_empty_lines.sh

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat 07_delete_empty_lines.sh
#!/bin/bash

filename=$1

if [ $# -eq 0 ]
then
    echo "Please provide the file name in command line."
else
    sed '/^$/d' $filename
fi

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ ./07_delete_empty_lines.sh file.txt
Hello, I am Saurabh.
I am from Maharashtra.
Recently I completed my CDAC course from MET Nashik.

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$ cat file.txt
Hello, I am Saurabh.

I am from Maharashtra.

Recently I completed my CDAC course from MET Nashik.

(saurabh@ LenovoLegion5)~/ShellScripting/ShellQuestions
$
```

