```
 GNU nano 6.2                                  01_pattern.sh
#!/bin/bash

read -p "Enter a number: " n
for ((i=1;i<=n;i++))
do
   for((j=1;j<=i;j++))
   do
   echo -n "$j"
   done
   echo ""
done
```

```
sarthak@Vegetamaster:~$ nano 01_pattern.sh
sarthak@Vegetamaster:~$ chmod 777 01_pattern.sh
sarthak@Vegetamaster:~$ ./01_pattern.sh /
Enter a number: 5
1
12
123
1234
12345
```

```
 GNU nano 6.2                                  02_pattern.sh
#!/bin/bash

read -p "Enter a number:" n

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

```
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$ nano 02_pattern.sh
sarthak@Vegetamaster:~$ chmod 777 02_pattern.sh
sarthak@Vegetamaster:~$ ./02_pattern.sh /
Enter a number:5
1
23
456
78910
1112131415
sarthak@Vegetamaster:~$
```

```
  GNU nano 6.2                                  03_real_add.sh
#!/bin/bash

read -p "Enter the first number: " num1

read -p "Enter the second number: " num2

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

echo "the sum of $num1 and $num2 is $sum"
```

```
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$ nano 03_real_add.sh
sarthak@Vegetamaster:~$ chmod 777 03_real_add.sh
sarthak@Vegetamaster:~$ ./03_real_add.sh /
Enter the first number: 4.6
Enter the second number: 3.77
the sum of 4.6 and 3.77 is 8.37
sarthak@Vegetamaster:~$
```

```
  GNU nano 6.2                                  04_calculator.sh
#!/bin/bash

if [ "$#" -ne 3 ]; then
   echo "usage: $0 <number1> <operator> <number2>"
   exit 1
fi

num1=$1
operator=$2
num2=$3

case $operator in
  "+")
      result=$(echo "$num1 + $num2" | bc)
      ;;
  "-")
      result=$(echo "$num1 - $num2" | bc)
      ;;
  "*")
      result=$(echo "$num1 * $num2" | bc)
      ;;
  "/")
      result=$(echo "$num1 / $num2" | bc)
      ;;
  *)
      echo "Invalid operator: $operator"
      exit 1

esac

echo "The $operator of $num1 and $num2 is $result."
```

```
sarthak@Vegetamaster:~$ nano 04_calculator.sh
sarthak@Vegetamaster:~$ chmod 777 04_calculator.sh
sarthak@Vegetamaster:~$ bash 04_calculator.sh 5.4 + 5.5
The + of 5.4 and 5.5 is 10.9.
sarthak@Vegetamaster:~$ bash 04_calculator.sh 5.4 * 5.5
usage: 04_calculator.sh <number1> <operator> <number2>
sarthak@Vegetamaster:~$ bash 04_calculator.sh 5.4 \* 5.5
The * of 5.4 and 5.5 is 29.7.
sarthak@Vegetamaster:~$
```

```
  GNU nano 6.2                                          05_largest.sh
#!/bin/bash


if [ $# -eq 0 ]; then
  echo "Usage: $0 [number1] [number2] ... [numberN]"
  exit 1
fi

largest=$1

for num in "$@";
do
  if [ "$num" -gt "$largest" ]; then
    largest=$num
  fi
done

echo "The largest value is $largest"
```

```
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$ nano 05_largest.sh
sarthak@Vegetamaster:~$ chmod 777 05_largest.sh
sarthak@Vegetamaster:~$ bash 05_largest.sh 3 7 8 4 35 8 3
The largest value is 35
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$
```

```
  GNU nano 6.2                                          06_reverse.sh
#!/bin/bash

if [ $# -ne 1 ]; then
   echo "Usage: $0 [number] "
   exit 1
fi

num=$1
reverse=""

while [ "$num" -gt 0 ];
do
remainder=$((num % 10))
reverse="${reverse}${remainder}"
num=$((num / 10))
done

echo "the reversed number of entered number is $reverse"
```

```
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$ nano 06_reverse.sh
sarthak@Vegetamaster:~$ chmod 777 06_reverse.sh
sarthak@Vegetamaster:~$ bash 06_reverse.sh 23456
the reversed number of entered number is 65432
sarthak@Vegetamaster:~$
sarthak@Vegetamaster:~$
```