1. **Write a bash script to print the reverse of a given number.**

   Code:

```
#!/bin/bash
read -p "Enter a number: " num
temp=$num
reverse=0
while [ $num -gt 0 ]; do
   remainder=$((num % 10))
   reverse=$((reverse * 10 + remainder))
   num=$((num / 10))
done
echo "Reverse of $temp is $reverse"
```

   Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/tempCodeRunnerFile.sh"
Enter a number: 199
Reverse of 199 is 991
```

2. **Write a bash script to add 2 float numbers.**

   Code:

```
#!/bin/bash
echo "Enter the two float numbers to be added:"
read num1
read num2
sum=$(echo "$num1 + $num2" | bc)
echo "The sum is: $sum"
```

   Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/two_floats.sh"
Enter the two float numbers to be added:
2.99876
18.282871
The sum is: 21.281631
```

3. **Write a bash script for a menu driven calculator for + -* /**

   Code:

```
#!/bin/bash
echo "Menu-driven Calculator"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
echo -n "Enter your choice: "
read choice
echo -n "Enter the first number: "
read num1
echo -n "Enter the second number: "
```

```
read num2
case $choice in
1) result=$(echo "$num1 + $num2" | bc) ;;
2) result=$(echo "$num1 - $num2" | bc) ;;
3) result=$(echo "$num1 * $num2" | bc) ;;
4) result=$(echo "scale=2; $num1 / $num2" | bc) ;;
*) echo "Invalid choice" ;;
esac
echo "Result: $result"
```

Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/calc.sh"
Menu-driven Calculator
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter your choice: 1
Enter the first number: 10
Enter the second number: 2
Result: 12
```

4. **Write a bash script to add the digits of a number.**

Code:

```
#!/bin/bash
echo "Enter a number: "
read num
sum=0
while [ $num -gt 0 ]; do
   digit=$((num % 10))
   sum=$((sum + digit))
   num=$((num / 10))
done
echo "Sum of the digits: $sum"
```

Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/sum_of_digit.sh"
Enter a number:
1289
Sum of the digits: 20
```

5. **Write a bash script to print the factorial of a number.**

Code:

```
#!/bin/bash
echo "Enter a number: "
read num
fact=1
for ((i = 2; i <= num; i++)); do
   fact=$((fact * i))
done
echo "Factorial of $num is $fact"
```

Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/tempCodeRunnerFile.sh"
Enter a number:
5
Factorial of 5 is 120
```

6. **Write a shell script to find the largest of three numbers and also find the sum and the mean.**

Code:

```
#!/bin/bash
echo "Enter the first number: "
read num1
echo "Enter the second number: "
read num2
echo "Enter the third number: "
read num3

largest=$num1

if [ $num2 -gt $largest ]; then
   largest=$num2
fi

if [ $num3 -gt $largest ]; then
   largest=$num3
fi

echo "The largest number is: $largest"

sum=$((num1 + num2 + num3))
mean=$(echo "scale=2; $sum / 3" | bc)

echo "The sum of the numbers is: $sum"
echo "The mean of the numbers is: $mean"
```

Output:

```
student@cpl19-HP-ProDesk-400-G4-SFF:~/22BCP225/College$ /bin/bash "/home/student/22BCP225/College/OS_Lab_
Codes/4/large_sum_mean.sh"
Enter the first number:
1
Enter the second number:
2
Enter the third number:
3
The largest number is: 3
The sum of the numbers is: 6
The mean of the numbers is: 2.00
```

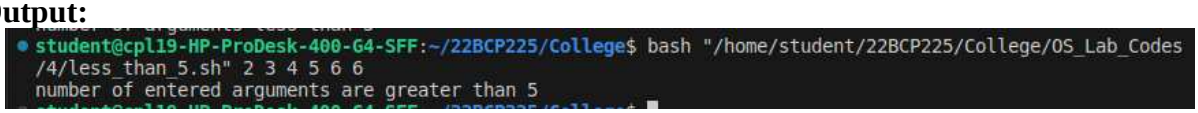
7. **Write a shell script to check whether the number of command line arguments passed are less than or equal to 5.**

Code:

```
if [ $# -lt 5 ]; then
   echo "number of arguments less than 5"
else
   echo "number of entered arguments are greater than 5"
```

fi

Output:



8. **Write a bash script to print the maximum from command line arguments.**

Code:

```
max=-999999
for i in $@; do
   if [ $i -gt $max ]; then
      max=$i
   fi
done
echo "maximum=$max"
```

Output: