1. Write a shell script to calculate salary from given basic.
Salary = basic + dp + da +hra +ma –pf
basic – to be taken as input
dp - 50 % of basic
da - 35 % of (basic + dp)
hra - 8 % of (basic + dp)
ma - 3 % of (basic + dp)
pf - 10% of (basic + dp)

```
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ cat calculator.sh
#! /bin/bash

#to fetch the input from user from terminal/CLI
echo "Please enter your basic salary: ";
read basic

dp=`echo 0.50*$basic | bc`  #dp calculation
bp=`echo $basic+$dp | bc`   #to calculate the sum of basic and dp and stored  in a new variable bp
da=`echo 0.35*$bp | bc`     #da calcultaion
hra=`echo 0.08*$bp | bc`    #hra calculation
ma=`echo 0.03*$bp | bc`     #ma calculation
pf=`echo 0.10*$bp | bc`     #pf calculation

salary=`echo $basic+$dp+$da+$hra+$ma+$pf | bc`    #Total salary calculation

echo "Total Salary: $salary";     #displaying the total salary on terminal/CLI
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash calculator.sh
Please enter your basic salary:
15000
Total Salary: 35100.00
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$
```

2. Accept 2 numbers from user and print addition , subtraction,multiplication Division.

```
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ cat arithmaticoperation.sh
#! bin/bash

#variable declaration
num1=0
num2=0

#accepting input from user
read -p "Enter 2 numbers: " num1 num2

echo "$num1 + $num2: "`echo $num1+$num2 | bc`     #Addition of 2 numbers and displaying the result

echo "$num1 - $num2: " `echo $num1-$num2 | bc`    #Subtraction of 2 numbers and displaying the result

echo "$num1 x $num2: " `echo $num1*$num2 | bc`    #Multiplication of 2 numbers and displaying the resiult

if [ $num2 == 0 ];                                #Checking if dinominator is 0
then echo "Number Divided by Zero is Undefined"    #displaying the message
else
echo "$num1 / $num2: " `echo $num1/$num2 | bc`    #Division of 2 numbers and displaying the result
fi

bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash arithmaticoperation.sh
Enter 2 numbers: 876 21
876 + 21: 897
876 - 21:  855
876 x 21:  18396
876 / 21:  41
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash arithmaticoperation.sh
Enter 2 numbers: 534 0
534 + 0: 534
534 - 0:  534
534 x 0:  0
Number Divided by Zero is Undefined
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$
```

3. Accept 2 numbers and find out biggest number from that

```
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ cat largestof2.sh
#! bin/bash

read -p "Enter 1st number: " num1

read -p "Enter 2nd Number: " num2

if [ $num1 -gt $num2 ];
then echo "$num1 is the largest"
else
echo "$num2 is the largest"
fi
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash largestof2.sh
Enter 1st number: 486
Enter 2nd Number: 537
537 is the largest
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$
```

4. Accept file name from user and print how many lines it's having

```
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ cat printline.sh
#! bin/bash

#getting i.p from user
echo "Please enter a file name"
read file

echo "Total number of lines available in file: "; wc -l $file; #counting the line and displaying the o/p
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash printline.sh
Please enter a file name
arithmaticoperation.sh
Total number of lines available in file:
21 arithmaticoperation.sh
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$
```

5. Write a shell script to calculate the area of rectangle. It should take the value from the command line.

```
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ cat arearectangle.sh
#! bin/bash

# to take i/p from user for length of rectangle
read -p "Enter the length of the rectangle: " length

#to take i/p from user for width of rectangle
read -p "Enter the width of the rectangle: " width

echo "The area of rectangle is: " `echo $length*$width | bc` #to calculte the area of rectangle and print the o/p
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$ bash arearectangle.sh
Enter the length of the rectangle: 57
Enter the width of the rectangle: 45
The area of rectangle is:  2565
bibek@bibek-H310M-H-2-0:~/Linux_Practical/Class_4$
```