Example 1: Write a shell script which reads <your name> in a shell variable ***name****, <your address> in three lines in three shell variables namely* ***address_line1****,* ***address_line2****,* ***address_line3****; Display those at the shell prompt.*

Sol:

```
$ read name
                        /* Enter your name*/
$ read $address_line1
                       /*Enter first line of address*/
$ read $address_line2
                       /*Enter second line of address*/
$ read $address_line3
                       /*Enter third line of address*/

$ echo $name $address_line1 $address_line2 $address_line3
                                /* Display all at the shell prompt.*/
```

Example 2: Write a shell script which reads two integer values for two shell variables say, ***a****,* ***b****, and perform the following operations on these two variables:* ***addition, subtraction, multiplication, division, and modulo division.***

Sol:

```
$ a=100 b=7
$ echo $a $b                    Output: 100 7
$ expr $a + $b                  Output: 107
$ expr $a - $b                  Output: 93
$ expr $a * $b                  Output: expr: syntax error
$ expr $a \* $b                 Output: 700
$ expr $a / $b                  Output: 98
$ expr $a % $b                  Output: 2
```

Example 3: Write a shell script which reads two real numbers for two shell variables say, ***c****,* ***d****, and perform the following operations on these two variables:* ***addition, subtraction, multiplication, division.***

Note: expr *is capable of carrying out only integer arithmetic. To carry out arithmetic on real numbers, it is necessary to use the* ***bc*** *command.* ***bc*** *- An arbitrary precision calculator language.*

Sol:

$ c=10.5 d=3.2
$ echo $c $d *Output: 10.5 3.2*
$ expr $c + $d

/ expr: non-integer argument*/*

$ echo $c + $d | bc *Output: 13.7*
$ echo $c - $d | bc *Output: 7.3*
*$ echo $c * $d | bc* *Output: 33.6*

$ echo $c / $d | bc *Output: 3*

$ echo $c / $d | bc -l *Output: 3.281250000000000000*

*Exercise 1: Perform all operations **addition, subtraction, multiplication, division** on two real variables using **awk** command.*

Exercise 2: The length & breadth of a rectangle and radius of a circle are input through the keyboard. Write a shell script to calculate the area and perimeter of the rectangle, and the area and circumference of the circle.

Exercise 3: The length of the three sides of a triangle is input through the keyboard. Write a shell script to calculate the area of the triangle.

*Example 4: The following C-like program prints 1 to 6 using a **for** loop.*

$ bc
for(i=1; i<=6; i=i+1) i */* The life of the variable **i** is until you exit **bc** (by typing quit) */*
Output: 1
2
3
4
5
6

quit

*Exercise 4: Write a shell script using **bc** to find **factorial** value of a number.*

*Exercise 5: Write a shell script using **bc** to print **squares, cubes and square roots** of all numbers from 1 to 50.*