**Exercise 1:** *Create a class called Calculator which has 4 different methods add, diff, mul and div which*

*accepts variable no of arguments for add, mul and two arguments for mul and div. Create an object to access these methods and invoke these methods and display the result in the corresponding methods.*

**Exercise 2:** *Write a program to construct an array with 10 elements and to find the number of*

*occurrences of each digit in an element in the Array.*

**Exercise 3:** *Create a class called employee with the following data members*

1. *empName*
2. *empId*
3. *empAge*
4. *empdesgn*
5. *empLocation*
6. *empExpInYrs*

*All these data members should be initialized using constructors. Use constructor overloading*

*and demonstrate by creating different employee objects with*

1. *Employee name alone*
2. *Employee name and id*
3. *Employee name, id and age*
4. *Employee name, id and designation*
5. *Employee name, id, age and designation*
6. *Employee name, id, age and location*
7. *Employee name, id, age and experience*
8. *Employee name, id, designation and experience*
9. *Employee name, id, designation, location and experience*
10. *Employee name, id, age, designation, location and experience*

**Exercise 4:** *Create a class called Calculator which has 4 different methods add, diff, mul and div which*

*accepts two numbers as parameters. Overload the methods such that the parameters can be*

*of the following pattern.*

1. *Both are of int data type.*
2. *Both are of double data type.*
3. *First parameter is of int data type and second parameter is of double data type.*
4. *First parameter is of double data type and second parameter is of int data type.*

*Create anobject to access these methods and invoke these methods with different type of*

*numbers and display the result in the corresponding methods.*

**Exercise 5:** *Create a class called shape with the following methods*

1. *area*
2. *perimeter*

*Overload the area and perimeter method to calculate for both square and rectangle.*

*Create a main class and invoke the area method to calculate the area of the square and*

*rectangle. Also invoke the perimeter method to calculate the perimeter of the square*

*and rectangle.*

**Exercise 6:** *Create a class called Student with the following details: RollNo, StudName, MarksInEng,*

*MarksInMaths and MarksInScience. Write getters and setters for the all variables. RollNo*

*should be automatically generated whenever a newstudent is added.*

*Create a class called Standard with 8 students’ details and write separate method for each of*

*the following tasks and invoke the same.*

1. *To display the entire roll no and the name of the students in the class in the ascending order of roll no.*
2. *To display the roll no and the name of the student who has got the highest percentage.*
3. *To display the roll no and the name of the student who scored highest mark*

*inmathematics.*

1. *To display the roll no and the name of the student in the ascending order of the total marks in mathematics and science alone.*
2. *To display the roll no, name, total marks, percentage and rank of all the students in the descending order of rank.*