1. Create a class Student with 2 data members rollno and name. Create one method setData() that takes roll number and student name as parameter and stores them in data members rollno and name. Create one more method showData() to print the data member values. Create another class ( main class) StudentDemo that creates Student class object and calls setData() and showData() methods.
2. Create a class Circle that has two data members, one to store the radius and another to store area and three methods first init() method to input radius from user, second calculateArea() method to calculate area of circle and third display() method to display values of radius and area. Create class CircleDemo ( main class) that creates the Circle object and calls init(), calculateArea() and display() methods.
3. Create a class MathOperation that has four static methods. add() method that takes two integer numbers as parameter and returns the sum of the numbers. subtract() method that takes two integer numbers as parameter and returns the difference of the numbers. multiply() method that takes two integer numbers as parameter and returns the product. power() method that takes two integer numbers as parameter and returns the power of first number to second number. Create another class Demo (main class) that takes the two numbers from the user and calls all four methods of MathOperation class by providing entered numbers and prints the return values of every method.
4. Create a class MathOperation containing overloaded methods ‘multiply’ to calculate multiplication of following arguments.
   1. two integers
   2. three floats
   3. all elements of array
   4. one double and one integer
5. Create a class Employee with three data members (empNo, salary and totalSalary) and following features.
   1. Only parameterized constructor. [Do not overload the constructor]
   2. totalSalary always represents salary total of all the employees created.
   3. empNo should be auto incremented.
   4. display total employees and totalSalary using a method.

Create another class EmployeeDemo (main class) that creates some Employee objects and calls Employee method to display no. of employees and total of their salaries.

1. Create class Product with three data members (pid, price, quantity) and parameterized constructor that takes values for all three data members.

Create a main method in different class (say ProductDemo) and perform following task:

a. Accept information for five Product objects from user and store objects in an array

b. Find pid of product with highest price.

c. Create a static method (with array of product’s object as argument) in Product class to calculate and return total amount spent on all products. ( amount spent **on single product = price of product \* quantity of product )**

1. Create a class OneBHK with instance variables roomArea, hallArea and price. Then create default constructor that initializes instance variables with some values and a parameterized constructor that takes values for all instance variables and stores them in instance variables. Now create a method named show() to print OneBHK’s instance variable values.

Create another class TwoBHK which has (inherits) all the properties and behaviors of OneBHK and a new instance variable room2Area. Then create default constructor to initialize all 4 instance variables and a parameterized constructor to take the values for initialization of all instance variables. Override show() method to print all data member information.

Write main method in another class (Say Demo) and store three TwoBHK flat’s information and print information using show method. Also print total amount of all flats.

1. Create three classes

* Faculty with two data members facultyId and salary and two methods, one intput() method for accepting facultyId as input and another printSalary() to print salary.
* FullTimeFaculty that inherits class Faculty with two data members’ basicSalary and allowance. Override input() method in this class that calls super class inut() method and accepts basicSalary and allowance as input. Salary should not be accepted as input but should be calculated using formula (basicSalary + allowance)
* PartTimeFaculty that inherits class Faculty with two data members’ workingHours, ratePerHour. Override input() method in this class that calls super class inut() method and accepts workingHours and ratePerHour as input. Salary should not be accepted as input but should be calculated using formula ( workingHour \* ratePerHour )

1. Create an Abstract class Processor with int member variable data and method showData to display data value. Create abstract method process() to define processing of member data. Create a class Factorial using abstract class Processor to calculate and print factorial of a number by overriding the process method.

b. Create a class Circle using abstract class Processor to calculate and print area of a circle by overriding the process method.

Ask user to enter choice (factorial or circle area). Also ask data to work upon. Use Processor class reference to achieve this mechanism.