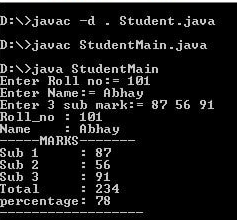
**Assignment No:6 Date: 19.12.23**

**Topic : Abstract Class, Interface, Package**

1. Create a abstract class Bank that has abstract method getROI(). Create two classes SBI, PNB, BOI inherited from Bank. Create a driver class that prints the rate of interest of each bank using super class memory reference.
2. Define an interface Calculator which has the basic methods add(), sub( ), mul() and div(). Define a concrete class named as DemoCalculator that implements the interface. Define the driver class, which create object reference of the interface Calculator and perform all basic operation of the calculator.
3. Create an abstract class 'Shape' with three abstract methods namely 'RectangleArea' taking two parameters, 'SquareArea' and 'CircleArea' taking one parameter each. The parameters of 'RectangleArea' are its length and breadth, that of 'SquareArea' is its side and that of 'CircleArea' is its radius. Now create another class 'Area' containing all the three methods 'RectangleArea', 'SquareArea' and 'CircleArea' for printing the area of rectangle, square and circle respectively. Create an object of class 'Area' and call all the three methods.
4. Write a program to implement multiple inheritance using interface.
5. Create an interface Servicing that has abstract methods getServiceTime(). Create two class Car, Bike that implement interface. Create a driver class that creates the objects of two class and displays the service time.
6. Create a Package ***btech*** which has one class ***Student***. Accept student detail through parameterized constructor of ***Student*** class. Write a method ***display*** ()to display the student details. Create another class ***Test*** containing the main method which will use the package ***btech*** and calculate total marks and percentage of marks. One sample output is shown below.



1. [Create a sub-package called ***arithmetic*** under the package ***btech***. The ***arithmetic*** package should contain a class ***MyMath*** having methods to deal with different arithmetic operations (addition, subtraction, multiplication, division and mod). Create a class ***Test*** containing the main method which will use the methods of sub-package ***arithmetic***.](http://www.smartclass.co/2011/09/create-package-called-arithmetic-that.html)
2. Create a sub-package named ***shapes***under a package ***org***. Create some classes in the package representing some common geometric shapes like ***Square***, ***Triangle***, ***Circle*** and so on. The classes should contain the ***area*( )** and ***perimeter*( )** methods in them. Compile the package. Use this package to find area and perimeter of different shapes as chosen by the user.