**JAVA PROGRAMMING**

**ASSIGNMENT 5**

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**1. Create an abstract class “BankAccount” with abstract methods “deposit()” and “withdraw()”. Implement two subclasses “SavingsAccount” and “CheckingAccount” which extend “BankAccount” and implement the abstract methods. Create a “Customer” class which contains a list of “BankAccount” objects. Add methods to the “Customer” class to display account balances, deposit/withdraw money, etc. Create objects of all classes and test their behavior.**

**PROGRAM:**

**OUTPUT:**

**2. An abstract class called “Marks” is needed to calculate the percentage of marks earned by students A in three subjects (with each subject out of 100) and student B in four subjects (with each subject out of 100). This class must contain the abstract method “getPercentage,” which two other classes, “A” and “B,” will inherit. The method “getPercentage,” which provides the percentage of students, is shared by classes “A” and “B.” The constructor of class ‘A’ will accept the marks obtained in three subjects as its parameters and the constructor of class ‘B’ will accept the marks obtained in four subjects as its parameters. To test the implementation, objects for both the classes need to be created and the percentage of marks for each student should be printed.**

**PROGRAM:  
OUTPUT:**

**3. Write a Java program using a function root to calculate and display all roots of the quadratic**

**AX2 + BX + C = 0.**

**PROGRAM:  
OUTPUT:**

**4. Write a program to fi nd the volume of a box that has its sides w, h, d as width, height, and depth, respectively. Its volume is v = w \* h \* d and also fi nd the surface area given by the formula s = 2(wh + hd + dw).**

**PROGRAM:  
OUTPUT:**

**5. A class weight is having a data member pound, which will have the weight in pounds. Using a conversion function, convert the weight in pounds to weight inkilograms which is of double type. Write a program to do this.**

**1 pounds =1 kg/0.453592**

**Use default constructor to initial assignment of 1000 pounds.**

**PROGRAM:  
OUTPUT:**