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| 1. Write a program to show how this keyword is used to differentiate between instance variable and local variable with the same name. |
| 1. Write the definition for a class called **Complex** that has floating point data members for storing real and imaginary parts. The class has the following member functions: **void set(float, float)** to set the specified value in object **void disp()** to display complex number object **complex sum(complex)** to sum two complex numbers & return complex number   a. Write the definitions for each of the above member functions. b. Write main function to create three complex number objects. Set the value in two objects and call **sum**() to calculate sum and assign it in third object. Display all complex numbers. |
| 1. Write a JAVA program which contains a method **fun**() such that fun(x) returns x^2 and **fun**(x,y) returns x^2 + y^2. (Where x and y are integers). |
| 1. Write a JAVA program which contains a method **cube**() such that **cube**(3) returns 27,**cube**(0.2) returns 0.008. |
| 1. Define a class **Figure** to calculate the **area** of triangle, square, circle, rectangle by using method overloading mechanism. |
| 1. Create a class named **'Rectangle'** with two data members- length and breadth and a method to claculate the area which is 'length\*breadth'. The class has three constructors which are:  1 - having no parameter - values of both length and breadth are assigned zero. 2 - having two numbers as parameters - the two numbers are assigned as length and breadth respectively. 3 - having one number as parameter - both length and breadth are assigned that number.   Now, create objects of the 'Rectangle' class having none, one and two parameters and print their areas. |
| 1. Implement a **Student** class with the following fields, constructors and methods : Fields:   **name**; **totalScore**; **numberOfQuizzes**;  Constructors:  public Student(String name, double score) public Student(double score, String name) public Student(String name)  Methods:  public String getName() public double getAverage() //this should return zero if no quiz has been taken. public double getTotalScore() public void addQuiz(double score) // adds quiz marks to Total score  public void printStudent() //this should print the student’s name and average score  Write a java program that reads a student name and use the **Student** class to create a **Student** object. Then read the scores of the student in three quizzes and **add** each to the **totalScore** of the student using **addQuiz**(double ) method and print the student object. |