

## Practice problems:

### CSE 1116

1. Write a program to print the names of students by creating a Student class. If no name is passed while creating an object of Student class, then the name should be "Unknown", otherwise the name should be equal to the String value passed while creating object of Student class.
2. Create an array of objects of the Student class, of size 3. The Student class is defined below. Create three objects of the Student class, with values, and assign the objects to the array. Loop through the array and print the name, grade, and email of all students as below:

Output: Peter 3 peter@gmail.com  
John 4 john@gmail.com  
Lisa 5 lisa@gmail.com

**Hints:** `Student[] st = new Student[3] //Array of objects in class`

`st[0] = new Student("Peter", 3, "peter@gmail.com")`

3. Design a class named Circle. Construct three circle objects with radius 2.0, 12, and 21 and display the radius and area of each. A no-argument constructor set the default value of radius to 1. A `getArea()` method is used to return the area of circle. Now implement the class.
4. Write the class named "Rectangle" which will have two attributes named length and width (both are integer in type). This class also contains two methods named `CalculateArea` and `CalculatePerimeter` (these two methods return integer values when they are called).

Now write a class named `TestRectangle` to test your code (contains main method).

- a. In this class at first, print a line, "Enter dimensions of rectangle:". Then take two double values from the user.
- b. Again, print a line, "Please enter a choice: 1. Area of rectangle. 2. Perimeter of rectangle. "
- c. Then take an integer number as a user input from keyboard.  
If the integer is 1, show the area of the Rectangle; If choice is 2, print the perimeter.

Area = (width\*length)

Perimeter = 2(l+w)

5. Create a class named 'Shape' with a method to print "This is shape". Then create two other classes named 'Rectangle', 'Circle' inheriting the Shape class, both having a method to print "This is rectangular shape" and "This is circular shape" respectively. Create a subclass 'Square' of 'Rectangle' having a method to print "Square is a rectangle". Now call the method of 'Shape' and 'Rectangle' class by the object of 'Square' class.
6. Write a program to create an Account class containing acc\_no, balance as datamembers and disp() to display the details. Inherit it in Person class with all mentioned data members and functions. Person class also has name and NID\_no as extra data members of its own. Override disp() function. Create an array of objects of the Person class, of size 5.