

Object Oriented Programming using Java

Assignment - 4

'this', 'static', Constructor, Constructor Overloading

1. Create a Java class to represent an Employee with data members such as eid, name and salary. Use a parameterised constructor to initialize the employee object and use a suitable method to display the employee details.
2. Create a class representing a student with fields for name, age, and roll number. Implement a default constructor that initializes the student with default values. Then create a parameterized constructor to set these values when a new student object is created. Use a static variable to keep count of number of student objects are created and display it using a method. Initialize multiple students to demonstrate the use of different constructor.
3. Develop a class to represent a Book with data members like title, author and price. Create an array of 5 book object and initialize them with parameterized constructor. Display the details of all the books.
4. Write a class to represent a point in 2D space. Implement a constructor that takes x and y coordinates. Use the 'this' keyword to differentiate between instance variables and constructor parameters. Define a static method in the class to find the distance between two points.
5. Design a class to represent a complex number. Define two methods to perform addition and subtraction between two complex number. Use constructor to initialize the complex number. Use suitable method to display a complex number.
6. Implement a java class to represent time in Hour, minute and seconds format. Consider the time is represented in 24 hour time format. Use parameterized constructor to initialize the time. Use suitable methods to add to time and get difference between two times.