

Assignment Questions

CT405-N: Object Oriented Programming Using Java

Module 1: Introduction to Java

- **Features of Java**
- Object oriented programming Vs. Procedural Programming. OR (Features of OOP)
- Explain: Bytecode OR Platform independency (in Java)
- Explain the keywords: `static`
- Operators in Java.
- Control structures in Java.

Module 2: Basics of objects and classes

- **Access Modifiers in Java.**
- **Constructor with its types. OR (Constructor overloading)**
- Two methods from String Class and two methods from StringBuffer Class.
- `final` variable, `final` method, `final` class.

Module 3: Inheritance and Polymorphism

- **Inheritance and all its types.**
- Explain the keywords: `this`, `final`, `super`
- **Method overloading Vs. Method overriding**
- **Package in Java**
- Polymorphism
- `abstract` method, `abstract` class
- Class Vs. Interface
- Abstract Vs. Interface
- Multiple Inheritance in Java

Module 4: Introduction to Collection

- **Implement in Java: List (ArrayList)**
- Implement in Java: Queue (LinkedList), Set (HashSet), Tree (TreeSet)

Module 5: Exception Handling

- **What is an exception? Explain try, catch and finally with example.**
- **Write a Java program to implement custom exception. (E.g. divide by zero)**
- Explain the exception with example: `ArrayIndexOutOfBoundsException`

Module 6: Multithreading

- **What is multithreading? Explain the thread life cycle in Java.**
- Thread synchronization

Module 7: I/O programming

- Classes in Java: `InputStream`, `OutputStream`, `Stream`
- Binary I/O with Text I/O
- `Throw` Vs. `Throws`

Module 8: Event and GUI programming

- **Java Layout Manager: BorderLayout, Grid**
- **Applet life cycle.**
- **Application Vs. Applet**
- Explain event handling in Java with example.