LOVELY PROFESSIONAL UNIVERSITY

CSE310
Programming in Java

The kick start session

Lecture #0

Programming in JAVA

LOVELY PROFESSIONAL UNIVERSITY

- LTP – 302 [5 Hours/Week]

- Reference material by Codetantra Platform

Text Book:

- PROGRAMMING WITH JAVA: A PRIMER by E. BALAGURUSAMY

Reference Books:

- INTRODUCTION TO JAVA PROGRAMMING by Y. DANIEL LIANG
- JAVA THE COMPLETE REFERENCE by HERBERT SCHILDT

Note: Laptop is compulsory.

Java ORACLE

Course Assessment Model

CSE310	**Marks break up***
Attendance	5
Daily Practice Problems	20
CA (Two best out of Three CAs)	30
ETP	45
Total	**100**

Academic Tasks

Academic Task	Tentative Week
CA-1: Programming Practice (MCQs + Coding) (Mandatory)	Week1 – Week14
CA-2: Test - Code based 1 [MCQs(10 Marks) + Coding Problems(20 Marks)]	Week 5
CA-3: Test - Code based 2 [MCQs(10 Marks) + Coding Problems(20 Marks)]	Week 10
CA-4: Test - Code based 3 [MCQs(10 Marks) + Coding Problems(20 Marks)]	Week 13

Programming Practice

Sequence locking:

- Student must has completed all the problems of lecture 1, to complete the problems of lecture 2.

Marks Calculation for Programming Practice

- In order to qualify for programming practice marks, the student should solve at least 50% of the programming and 50% of MCQ questions (eligibility condition).
- The maximum marks out of 20 marks for which the student would be eligible for Programming Practice would be based on the Percentage of questions solved by the student.
- Example – If a student solves 105 questions out of 150 questions (i.e. 70% questions solved) then the student would be eligible for 70% of 20 marks which is 14 marks (round up would be used in case of decimal values).

Marks Calculation for Programming Practice

- The final marks for Programming Practice would be calculated by prorating the eligible marks for which the student is eligible (as explained in the above point) with the percentage of marks student has scored in the proctored Coding Contests conducted as CA's (The final marks would be round up for the students).
- Example – If a student solves 105 questions out of 150 questions (i.e. 70% questions solved) then the student would be eligible for 70% of 20 marks which is 14 marks.
- And the student has scored 24 out of 30 in the CA's i.e. 80% marks in CA, his Programming practice final marks would be 80% of 14 marks that he was eligible for which is 11.2 rounded up to 12 marks out of 20 for Programming Prcatice.
- Proportionate maximum marks based on proctored CA

Daily Practice Problems

S. No	Unit	Question	Tentative Dates for Completion
1	Unit-1	25 Multiple Choice Questions and 25 Practical Implementation problems in each unit	11th FEB 2024
2	Unit-2		25th FEB 2024
3	Unit-3		3rd MAR 2024
4	Unit-4		24th MAR 2024
5	Unit-5		7th APR 2024
6	Unit-6		21st APR 2024

Note:- Most Important for the improvement of Performance in Course Assessments.

End Term Practical (45 Marks)

- Coding Problems [50%]
- MCQs [20%]
- Viva [30%]

Course Contents?

Course Contents

- Introduction to Java, Data In the Cart, Operators, Conditional Statements
- Loops, Arrays and Enums, OOP Concepts, String Class
- Inheritance and Polymorphism, Abstract Class and Interface
- Functional Interface and Lambda Expressions, Nested Class, Utility Classes
- Exceptions and Assertions, IO Fundamentals
- Collections and Generics

Why Star Course?

- Industry demand
  - Product Based
  - Service Based

Course Outcomes

- explain basic constructs of Java programming and apply them to solve the real-world problems
- Illustrate the Object-oriented programming principles to write efficient and reusable codes.
- demonstrate the concept of inheritance to reuse and extend the features of existing class with access control
- contrast the uses of abstract classes, interfaces and Lambda expressions
- use of exception handling and input/output techniques to improve the robustness and reliability of Java applications
- integrate collections and generics to ensure clean, robust, and maintainable Java code

Software Requirement

- JDK 1.8
- Notepad

Oracle Certification Details

- Java SE 8 Certification (Oracle Certified Associate)
- Exam Code: 1Z0-808
- Mapped with Course: CSE310

Professional Benefits

- Expand your knowledge base and validate your skills to appeal to potential employers.
- Improve your potential earning power to command a higher salary.
- Learn to perform complex, hands-on activities through lab, study and practice sessions.
- Gain exposure to a wide variety of important features, functions and tasks to use on the job.

- Complete course will be exempted

Program Outcomes achieved from the course

- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Program Educational Objectives achieved from the course

- Those employed in industry will be able to apply fundamentals of technical knowledge in multidisciplinary areas related to automobile, thermal, manufacturing and mechatronics by participating as top professionals in leading Industries.

- Pursue advanced education, research and development in science, engineering, and technology, as well as other professional endeavors.

- Be receptive to professional and ethical responsibilities for the impact of engineering solutions on society being as a successful innovator, consultant and entrepreneur

SkillSet

- Programming Skills
- Code analysis

Cohort

- Software Development
  - Product based
  - Service based

Platform Used

- Live Demostration of Codetantra Platform
- URL: https://myclass.lpu.in/
- UserName: *RegistrationNumber*
- Password: *UMS Password*

Next Class: Introduction to Java