Summer Training Program

On

Java and Oracle

Duration Six Weeks

June 01, 2015 – July 10, 2015

Course Fee: Rs 6,500/- (For Outsiders)
Rs 4550/- (For TU students)

Time
5hrs/day (150 Hrs module)

Venue: CSED, Thapar University, Patiala.

Organized by

Mr. Karun Verma, Mr. Varinder Pal Singh and Ms. Tarunpreet Bhatia

Computer Science and Engineering Department
Thapar University, Patiala

Course Objectives

- To acquaint with the cutting edge Network based Client server programming.

- To learn Programming in Java runtime environment.

- To understand and apply the concepts of Object Oriented programming in Java.

- To understand and implement latest tools like Oracle in development of backend for client server based projects.

- To understand the intricacies of project Management.

Course Outcomes

- Trainee will be well trained to develop professional grade Client server based projects.

- Trainee will be able to develop applications focusing on Object Oriented Programming paradigm.

- Trainee will be exposed to various project artifacts.

- Trainee will be exposed to report writing for the projects.

Salient Features of Training Program

Course Material: Each Student will be provided course material

Schedule: Each day two hour lecture and three hour lab session.

Attendance: 75 percent attendance is must for getting the successful training completion certificate.

Lab Assignments: Each Student has to complete the assigned lab assignments on the same day. List of individual assignments are loaded on the intranet server.

List of Projects: List of proposed projects are uploaded on intranet with Introduction, background, broad requirements, scope, expectations and outcomes.

Project artifacts Templates: Objectives, SRS Document, E-R Diagrams, Database Design, GUI Design, Backend design, Test Plan, Test Cases, Test Data, Source code, Documentation, User manual.

Lab Session: Each Lab session will be handled by (2-3) well trained Lab Instructors. Each student will be provided separate machine for practice.

Project work: A Group of students (2-3) will be assigned a project which they need to complete during the training period and after completion of training each group is supposed to submit a short report on the project.

Mentor: Mentor will be faculty member. Each group will be assigned a mentor. During the training mentor will guide the group and monitor the progress of project.

Mentor and Project Plan: Each mentor is supposed to make project plan in MS Project and fix the milestones. Analyze the progress through plan.

Project Evaluation: Each group is supposed to present their working project and on the basis of various parameters project work will be evaluated.

Best Project Reward: Mentor can submit his project team work for best project evaluation process. Best Project will be selected from mentor entries by Independent group of Faculty members. Best Project group (students and mentor) will be suitably rewarded and letter of appreciation will be issued by HOD.

Certificate: Each successful trainee will be given a certificate of appreciation.

Java Oracle
Course Contents

Section 1 Core Java – Application Development

Introduction to Java, Fundamental of Java programming Language, Primitive Data Types and Variables, Operators, Expressions and Statements, Decision and Interactive Constructs, Understand object oriented programming concepts, Classes and Objects, Inheritance and Polymorphism, Scope rules, Access modifiers, Arrays and Vectors

Section 2 Basics of Database Designing

Relational models, ER Model, Keys, Normalization, SQL, Analyzing a Problem and Designing a Solution, Analyze a problem using object-oriented analysis, Design classes from which objects will be created, DDL statements(Create table, Alter table, Drop Table), DML statements(Simple SQL statements, Oracle functions, Joins, Grouping statements, Sub queries, Update, Delete, and Date statements), Sequencing & Indexing

Section 3 Application development:

Implementing Encapsulation and Constructors, Use encapsulation to protect data, Create constructors to initialize objects, Define and test your use of inheritance, Explain abstraction, Explicitly identify class libraries used in your code, I/O Fundamentals, Console I/ O and File I/O, Exceptions and Assertions

Section 4 Building Java GUIs Using the Swing API

Introductions to Applets, Describe the JFC Swing technology, identify the Swing packages, Describe the GUI building blocks: containers, components, and layout managers, Examine top-level, general-purpose, and special-purpose properties of container, Examine components, Examine layout managers, describe the Swing single-threaded model, Build a GUI using Swing components., Introduction to Event handling.

Section 5 Introduction to Event JDBC and Servlets

JDBC Fundamentals, Establishing Connectivity and working with connection interface, working with statements, Creating and Executing SQL statements, working with Result Set Object & Result Set Meta Data.
Introduction to Servlets, Life cycle of Servlets, Creating, Compiling and running servlet, Reading the servlet Parameters, Reading Initialization parameter, Packages- javax.servlet Package, Handling HTTP Request and Response (GET/POST Request), Cookies and Session Tracking, Creating JDBC application with Oracle

Laboratory work

- **Lab Assignments (Daily) Assignment related to core java programming, decision statement (if, switch, break, continue and looping statements (for, while and do-while loop), assignments related to concepts of Object Oriented Computing in Java, Input and output handling from console, files and internet in Java, creation of frames, windows, containers, GUI components in Java, event handling in Java for building GUI forms based on SWING in Java are given to trainees to develop their programming skills..**

- **Lab assignments related to Backend development, E-R Diagram, Database design, DML, DDL, and SQL.**

Project Work (Third Week Onwards)

Project Artifacts Template: Objectives, SRS Document, E-R Diagrams, DFD, Database Design, GUI Design, Backend design, Test Plan, Test Cases, Test Data, Source code, Documentation, User manual. Technical reports, results, output screen shoots, conclusion, Future scope.

Books and Resources:

1. Herbert Schildt, Java: Complete Reference, Oracle Press,2014
2. Parteek Bhatia, Simplified Approach to DBMS , Kalyani Publications, 2010

Registration Form

Six Weeks Summer Training' 2015 on Java – Oracle
(June 01 to July 10, 2015)

Name: _____**Father's Name:** _____
                             (Block letters)   *(Block letters)*

Age: _____**Sex: M/F** _____

Branch & Discipline *(in which studying)***:** _____

University/Institute with address: *(Where studying)* _____
_____

Correspondence Address: _____
_____

E-mail: _____**Phone/Mobile:** _____

Accommodation Required: (Yes / No) _____

Mode of Payment:

D. D. No. _____**Amount:** _____**Date:** _____
(*Payable to* 'Registrar, TU, Patiala')

Undertaking: *I will follow all the rules and regulation in force for conducting the training at Thapar University.*

Signature of the Candidate: _____   **Date:** _____

*(**Last date for submission** of Registration form along with Demand Draft is May 31, 2015.)*