Report on Training for VI SEM CSE Students

Department of Computer Science and Engineering of Alva's Institute of Engineering and Technology Moodbidri has arranged Three days Inhouse Training for VI SEM CSE Students from 29th July 2021 to 31st July 2021 by few internal Faculty members of Computer Science and Engineering The inhouse training is scheduled as shown below:

Data Structures and Applications: The inhouse trainers for this training are Mr. Venkatesh and Mrs. Merlyn Melita. The trainer reviewed the various data structures like stacks, queues and linked list and their applications.

Implementation of some linked list applications like reversing, concatenating etc. were covered in the training.

Also triple linked list was explained and its implementation also covered in the session.

OOPS, ADVANCED JAVA and J2EE: Resource persons for this course are Mr. Sayeesh and Ms. Shilpa.

Prof. Shilpa started her session on 29th July 2021 from 2 PM to 5 PM and continued the session on 30th July 2021 from 9 AM to 1 PM. She covered various concepts of OOPs with hands on training. Students were interactively participated in the training.

In the first day session importance of Object-Oriented Concepts in the real world and also the basics of Object-Oriented Concepts were discussed. Some of the topics are Abstraction, Encapsulation, Polymorphism, Constructors, Destructors. All these concepts were demonstrated with Programming example for each.

On the second day of the session topics like Difference between classes, abstract classes, interface, Inheritance, Using Super keyword, using of garbage collector, Finalize method, Final keyword were discussed and also demo started with programming examples.

The training session by Prof. Sayeesh was conducted on 30th July 2021 Friday from 11 AM to 5 PM. In this session, he discussed about different topics of Java & J2EE.
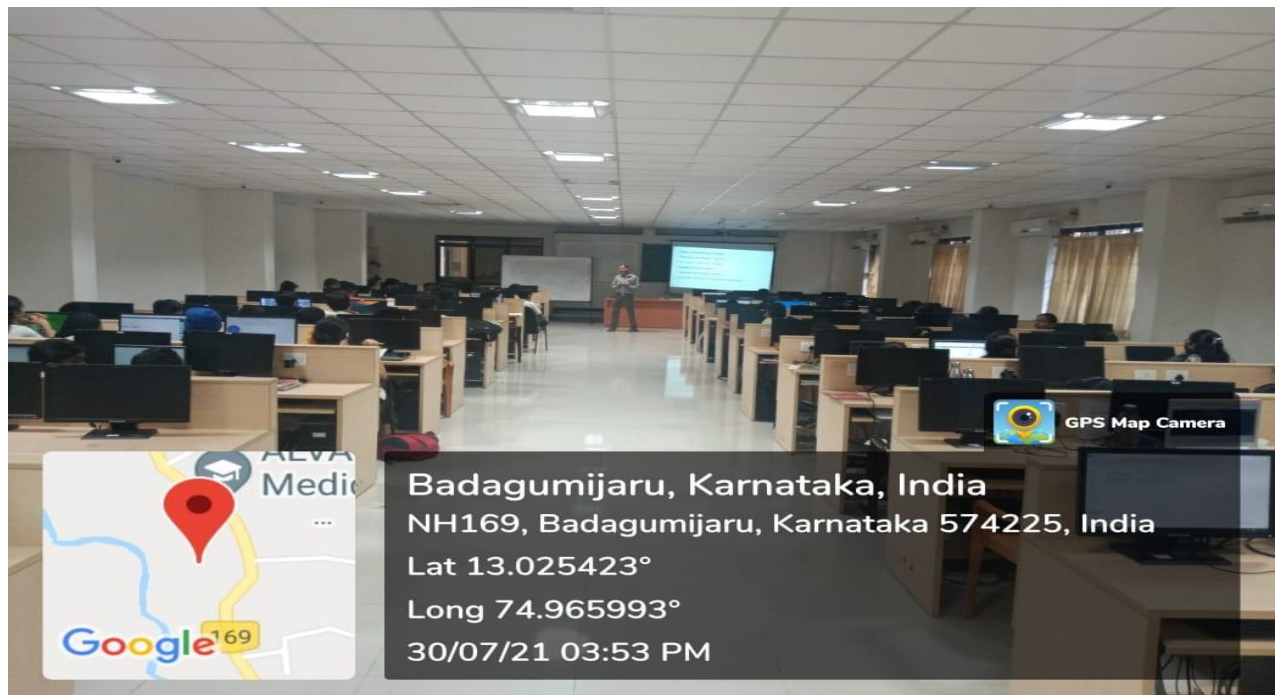
Prof. Sayeesh started his training session by discussing String Handling Functions, String Constructors with examples, String functions like length(), toString(), charAt(), getChars(), getBytes(), toCharArray(), equals(), equalsIgnoreCase(), regionMatches(), startsWith(), endsWith(), compareTo(), indexOf(), lastindexOf(), substring(), concat(), replace(), trim(),

Prof. Sayeesh continued his session by discussing about StringBuffer, StringBuffer Constructors with examples, StringBuffer functions like length(), capacity(), ensureCapacity(), setLength(), chatAt(), setCharAt(), getChars(), append(), insert(), reverse(), delete(), deleteCharAt(), replace(), substring().

He also discussed about Overview and Architecture of Java Server Pages (JSP), JSP Tags, Declaration Tags of JSP with Examples, Expression Tags of JSP with Examples, Directive Tags of JSP with Examples, Comment and Scriplet Tags of JSP with Examples, Exception Handling in JSP, Action Tags in JSP with Examples

ALGORITHMS: Resource Person for this training course is Mr. Madhusudhan S. The training session was conducted on 31st July 2021 from 9.30 AM to 1.30 PM. Mr. Madhusudhan covered most of the topics from NPTEL program. The following topics in the session are covered:

Asymptotic Notations: Big-Oh notation (O), Omega notation (Ω), Theta notation (Θ), and Little-oh notation (o), Mathematical analysis of non-Recursive and recursive Algorithms with Examples. Sorting, Searching, String processing, Graph Problems, Combinatorial Problems.

Divide and Conquer: General method, Binary search, Recurrence equation for divide and conquer, Finding the maximum and minimum, Merge sort, Quick sort, Strassen's matrix multiplication, Advantages and Disadvantages of divide and conquer.

Minimum cost spanning trees: Prim's Algorithm, Kruskal's Algorithm

Single source shortest paths: Dijkstra's Algorithm

Dynamic Programming: General method with Examples, Multistage Graphs.

Transitive Closure: Warshall's Algorithm,

 All Pairs Shortest Paths: Floyd's Algorithm, Optimal Binary Search Trees, Knapsack problem, Bellman-Ford Algorithm, Travelling Sales Person problem, Reliability design.

Discussed online secretary problem.