

CAP680:PROGRAMMING IN JAVA-LABORATORY

Course Outcomes: Through this course students should be able to

CO1 :: define the structure and model of the Java programming language

CO2 :: understand the accessibility of fields and methods of an object through String and StringBuilder classes

CO3 :: apply multithreading concepts to implement inter-process communication

CO4 :: analyze object serialization with file handling and exception handling to overcome run-time errors

CO5 :: develop applications using database connectivity to perform CRUD operations

List of Practicals / Experiments:

INTRODUCTION

- implement basic java concepts.
- wrapper classes.
- inner and nested classes.
- arrays and strings.
- StringBuffer and StringBuilder classes.
- access specifiers.
- inheritance.

Collection Framework

- ArrayList class.
- ListIterator interface.
- LinkedList class.
- TreeSet class.
- PriorityQueue class.
- Comparable and Comparator.
- Properties class.
- Lambda expressions.

Multithreading

- implement multithreading.
- life cycle of a thread.
- thread communication.
- thread suspending, resuming and stopping.
- deadlock.
- thread synchronization.
- handling exceptions during multithreading.

Swings and Layouts

- JButton class.
- JRadioButton class.
- JTextArea class.
- JComboBox class.
- JTable class.
- JColorChooser class.
- JProgressBar class.

- JSlider class.
- layout manager.
- Border Layout.
- Grid Layout.
- Flow Layout.
- Box Layout.
- Card Layout.

Managing data using JDBC

- introduction to JDBC.
- database connectivity.
- CRUD operations.
- Connection interface.
- Statement interface.
- ResultSet interface.
- PreparedStatement.
- ResultSetMetaData.
- DatabaseMetaData.

Network Programming

- socket classes.
- server socket classes.
- URL class.
- URL connection class.
- Datagram Socket class
- java socket programming.

Text Books: 1. JAVA THE COMPLETE REFERENCE by HERBERTZ SCHILDT, MCGRAW HILL EDUCATION

References: 1. PROGRAMMING WITH JAVA: A PRIMER by E. BALAGURUSWAMY, MCGRAW HILL EDUCATION
2. INTRO TO JAVA PROGRAMMING COMPREHENSIVE VERSION by Y DANIEL LIANG, PEARSON