# CAP680:PROGRAMMING IN JAVA-LABORATORY

L:0   T:0   P:2   Credits:1

**Course Outcomes:**   Through this course students should be able to

CO1 :: understand the handling of strings and collection frameworks

CO2 :: apply multithreading for inter-process communication

CO3 :: analyze the use of swings and layouts for graphical design

CO4 :: develop applications using database connectivity and socket programming

## 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