

# JAVA LAB MANUAL

1. Write a basic java program to implement basic programming concepts such as:
  - a. Including input handling
  - b. Arithmetic operations
  - c. Control flow structures
  - d. Data storage using arrays
2. Write a java program to perform various operations based on some given data:
  - a. Temperature conversion
  - b. Digit extraction
  - c. Number sign check
  - d. Profit/loss calculation
  - e. Student admission eligibility based on grade determination
3. Write a java program to demonstrate the use of different types of constructors:
  - a. Default constructor
  - b. Parameterized constructor
  - c. Copy Constructor
4. Write a java program to demonstrate the:
  - a. Constructor Overloading
  - b. Method Overloading
5. Write a java program to demonstrate the string manipulation such as:
  - a. toUpperCase()/toLowerCase()
  - b. length()
  - c. reverse()
  - d. replace()
  - e. charAt()
6. Write a java program to demonstrate:
  - a. Call by value
  - b. Call by reference
7. Write a java program to demonstrate the difference between StringBuffer and StringBuilder.
8. Write a java program to implement the following collection classes:
  - a. ArrayList<>
  - b. LinkedList<>
  - c. Vector<>
9. Write a java program to implement Dynamic Method Dispatch.
10. Write a java program to demonstrate:
  - a. Abstract class
  - b. Interface
11. Write a java program to demonstrate:
  - a. Single level Inheritance
  - b. Multiple Inheritance
  - c. Multi-level Inheritance
12. Write a java program to demonstrate:
  - a. Threading

b. Multi-threading

13. Write a java program to demonstrate Exception Handling using the Throw and Throws. The Try and Catch block utilization needs to be implemented in each case.
14. Write a java program to implement the inputStream and outputStream classes.
15. Develop a calculator application using Swings package in java.