# 10. Collections – Assignment

1. Create a Java program which read n number of integers using scanner class until the given number is zero. Store all these integers into ArrayList which can accept only integers. Find the average of the elements present in the ArrayList.
2. Create a Java Program which demostrates LinkedList with the following operations.
   1. Insert an element at the end of the list
   2. Insert an element at the given position of the list
   3. Remove an element of the given position from the list
   4. Modify an element at the given position of the list
   5. Display the elements of the list
3. Write a program which accepts integer elements into the ArrayList. Sort the elements present in the ArrayList using Arrays class
4. Write a program which searches for an element in the given ArrayList of integers.

Hint: Use Arrays Class

1. Create a Java Program which demonstrates Comparable interface
2. Create a Java application to show Comparator interface and its method.

Hint:

**Step-1 :** Create a Student class with three fields - sid (int), snm(String) & age(int). Add parameterized constructor and override toString() method.

**Step-2 :** Create three class with name: SidComp, SnmComp, AgeComp and implements Comparator interface and override compare() method in all classes.

**Step-3 :** Create a Main class where create 5 objects of Student class. Create three Treeset objects and objects of three classes: SidComp, SnmComp, AgeComp. While creating three objects of TreeSet pass object of SidComp, SnmComp and AgeComp . Using enhanced for loop display the objects of all three TreeSets.

1. Which data structute would be appropriate for the following situation?

Given a State abbreviation code (a String) to a function and it returns the capital city of that state (a String). You may assume there are exactly 20 state codes.

Write a Java Program for the above situation using appropriate data structure.

1. Write a program which demonstrates Vector and Enumeration
2. Write a program which demonstrates HaspMap.
3. Write a program which demonstrates TreeMap.
4. Write an application to count total number of occurences of a String in a text file
5. Write a java program to convert a String to Hex
6. Write an application to count total number of occurences of a String in a text file
7. A program in java to create a Log File
8. Write a program to implement Gregorian Calendar
9. Write a program to implement a telephone directory.
10. A program in java create a stack classs of variable size with push() and pop() methods.
11. Create a class called CD whose attributes are Title and singer. Arrange the CDs in ascending order based on the singer name. (What sorting algorithm would you use for this?)
12. Create a Collection and initialize with a HashSet object, ArrayList object and HashMap object. Write a function to identify the type of object at run time