**Day 7:**

**Collection Framework (Data structure):**

**Map** : it allow to store key-value pairs. Key is unique and value can be duplicate.

Map classes

HashMap : **unorder**

LinkedHash : **maintain the order**

TreeMap : Ascending order as key. So key must same data types values.

Hashtable : legacy class by default all methods are synchronized.

Collection framework with Generics

CollectionClass/CollectionInterface<Type> referenceName = new ClassName<Type>();

Type is Integer,Float, Double, Character, String, or any user defined object.

**Retrieve the data from collection framework**

**Set family :**

For each loop or enhanced loop

Iterator : it is a an interface which provide set of methods to retrieve the records one by one.

**List family** : for each loop or enhanced loop

Iterator : only forward direction

LiteratorIterator : forward as well as backward direction

**Map family :**

We can’t use for each loop or iterator or ListIterator

We need to convert to collection

We can convert to set and with help of iterator we can retrieve th value.

Collection framework provided few utilities classes which help to searching and sorting data from collection classes.

**Arrays** : Utilities class : deal with primitive array

**Collections** : Utilities classes : deal with List of data of any types.

By default all wrapper classes (Integer, float, double) as well as String class internally implements Comparable interface.

Comparable interface part of lang package and it contains compareTo method to compare the each values. It provided logic to do sorting by default ascending order.

**Comparator interface.**