

① ArrayList : Arrays the Easy Way :

```

public static void main (String [] args) {
    ArrayList<Integer> numbers = new ArrayList<Integer>();
    // Adding
    numbers.add(10);
    numbers.add(100);
    numbers.add(40);
    // Retrieving
    System.out.println(numbers.get(0));
    System.out.println("In Iteration #1");
    // Indexed for loop iteration.
    for (int i=0; i<numbers.size(); i++){
        System.out.println(numbers.get(i));
    }
}

```

② Linked Lists:

```

public static void main (String [] args) {
    /*
    * ArrayLists manage arrays internally.
    * [0][1][2][3][4][5]...
    */
    List<Integer> arrayList = new ArrayList<Integer>();
}

```

- /*
- * Linked lists consists of elements where each elements
- * has a reference to the previous & next element
- * [0] → [1] → [2] → ...
- * ← ← ←
- * /

```

List<Integer> linkedList = new LinkedList<Integer>()

```


• HashMap: Retrieving Object via a Key:

```
import java.util. HashMap;
import java.util. Map;

public class App {

    public static void main (String[] args) {
        HashMap< Integer, String> map = new HashMap<
            Integer, String>();
        map.put (5, "Five");
        map.put (8, "Eight");
        map.put (6, "Six");
        map.put (4, "Four");
        map.put (2, "Two");

        String txt = map.get(6);
    }
}
```

• Sorted Maps:

```
public class App {

    public static void main (String[] args) {
        Map<Integer, String> hashMap = new HashMap<Int, stg>();
        testMap(hashMap);
    }

    public static void testMap (Map< Integer, String>
        map.put (9, "fox");
        map.put (4, "cat");
        map.put (8, "dog");
        map.put (1, "goat");
        for (Integer key: map.keySet())
            String value = map.get(key);
    }
}
```



```

• Sets : if (set1.contains("aardvark")) {
    System.out.println("Contains aardvark");
}
if (set1.contains("cat")) {
    System.out.println("Contains cat");
}
// set2 contains some common elements with set1, &
set2

```

```

Set<String> set2 = new TreeSet<String>();
set2.add("dog");
set2.add("cat");
set2.add("ant");

```

//////// Intersection //////////

```

Set<String> Intersection = new HashSet<String>(set1);
Intersection.retainAll(set2);

```

• Using Custom objects in Sets and as Keys in Maps:

```

public class App {

```

```

    public static void main (String[] args) {

```

```

        Person p1 = new Person(0, "Bob");

```

```

        Person p2 = new Person(1, "Sue");

```

```

        Person p3 = new Person(2, "Mike");

```

```

        Person p4 = new Person(3, "Doe");

```

```

        Map<Person, Integer> map = new LinkedHashMap<Person, Integer>();

```

```

            map.put(p1, 1);

```

```

            map.put(p2, 2);

```

```

            map.put(p3, 3);

```

```

            map.put(p4, 4);

```

```

        for (Person key : map.keySet()) {

```


Sorting Lists:

```
for (String animal; animals) {
    System.out.println(animal);
}
```

}

/// /// Sorting Numbers ///

```
List<Integer> numbers = new ArrayList<Integer>();
```

```
numbers.add(3);
```

```
numbers.add(36);
```

```
numbers.add(73);
```

```
numbers.add(40);
```

```
numbers.add(1);
```

}

};

/// /// Sorting Objects ///

```
List<Person> people = new ArrayList<Person>();
people.add(new Person(1, "Joe"));
```

```
Collections.sort(people, new Comparator<Person>());
```

```
for (Person person; people) {
```

```
    System.out.println(person);
```

}

16/06/2020.

2020

SATURDAY

DAY (018-348)

3rd Week

18

• Statistical learning:

Agenda:

- ① Case study for statistics
- ② Probability & it's types.
- ③ Bayes Theorem.
- ④ Normal distribution & Bell curve

• Case study on statistics and Probability Theory:

→ what is the mode for work.

→ Find the coefficients of variation.

→ which class of histogram for Promotion.

→ How many points are outliers in Promotion Box plot?

→ which hospital has best medical type.

• Solution of Case study:

① 74 and 84.

② 10.38, 27.35.

③ 50 to 60 and 60 to 70.

④ Horizontal to 2. (Left side)

⑤ Two outliers.

19 SUNDAY