

Course Name: A Level (2nd Sem)
Topic: Map interface in Java

Subject: JAVA
Date: 01-06-20

MAP INTERFACE:

A map contains values on the basis of key i.e. key and value pair. Each key and value pair is known as an entry. Map contains only unique keys.

1)HashMap class:

Java HashMap class implements the map interface by using a hashtable. It inherits AbstractMap class and implements Map interface. A HashMap contains values based on the key. It contains only unique elements. It may have one null key and multiple null values. It maintains no order.

```
import java.util.*;
class HM{
    public static void main(String args[]){
        HashMap<Integer,String> hm=new HashMap<Integer,String>();
        hm.put(100,"Alex");
        hm.put(101,"Vincent");
        hm.put(102,"Richard");
        for(Map.Entry m:hm.entrySet()){
            System.out.println(m.getKey()+" "+m.getValue());
        }
    }
}
```

← This method is used to return the Set view containing all the keys and values.

2)LinkedHashMap class:

A LinkedHashMap contains values based on the key. It implements the Map interface and extends HashMap class.

It contains only unique elements. It may have one null key and multiple null values.

```
import java.util.*;
class LHM{
    public static void main(String args[]){
        LinkedHashMap<Integer,String> hm=new LinkedHashMap<Integer,String>();

        hm.put(256,"Alex");
        hm.put(257,"Vincent");
        hm.put(258,"Richard");
        for(Map.Entry m:hm.entrySet()){
            System.out.println(m.getKey()+" "+m.getValue());
        }
    }
}
```

```
} } }
```

3)Treemap class:

Java TreeMap class implements the Map interface by using a tree. It provides an efficient means of storing **key/value pairs in sorted order.**

A TreeMap contains values based on the key. It implements the NavigableMap interface and extends AbstractMap class.**It contains only unique elements.It cannot have null key but can have multiple null values.**It is same as HashMap instead maintains ascending order.

```
import java.util.*;
class TM{
    public static void main(String args[]){
        TreeMap<Integer,String> hm=new TreeMap<Integer,String>();
        hm.put(256,"Alex");
        hm.put(257,"Vincent");
        hm.put(258,"Richard");
        for(Map.Entry m:hm.entrySet()){
            System.out.println(m.getKey()+" "+m.getValue());
        }
    }
}
```