# CORE JAVA - Day 57

## Agenda

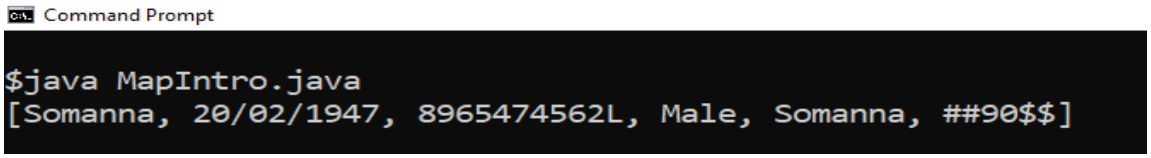
- values() method
- keyset() method
- entrySet() method
- getKey(), getValue(), setValue() method

**values () method in HashMap:** values() method returns a view of all the values present in entries of the HashMap.

**Example: To fetch all the values present inside the HashMap.**

```
import java.util.Collection;
import java.util.HashMap;

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562L");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using values() to get the set view of values
        Collection<String> values = myDetails.values();

        //printing the set of values
        System.out.println(values);
    }
}
```

## Output:

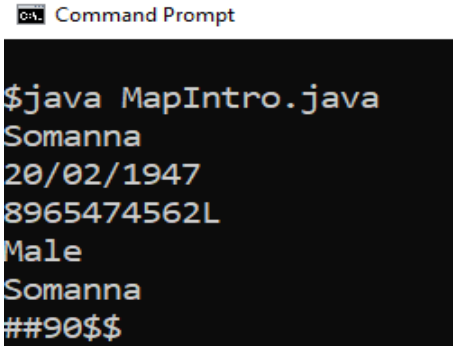



In this example, values() method will return collection of values stored in the HashMap and we are storing this in a variable values which is of type collection.

## Example: values () method in for each loop

```
import java.util.Collection;
import java.util.HashMap;

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562L");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using values() to get the set view of values
        Collection<String> values = myDetails.values();

        // for-each loop access each value from the view
        for(String value : values) {
            //printing each value
            System.out.println(value);
        }
    }
}
```

## Output:



Here, the **values()** method returns a view of all values**.** The variable value access each value from the view using for each loop.

**keySet() method in HashMap:** Returns a Set view of all the keys present in entries of the HashMap.

**Example:**

```
import java.util.HashMap;
import java.util.Set;

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562L");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using keySet() to get the set view of keys
        Set<String> keys = myDetails.keySet();

        // for-each loop access each key from the view
        for(String key : keys) {
            //printing each key
            System.out.println(key);
        }
    }
}
```

**Output:**

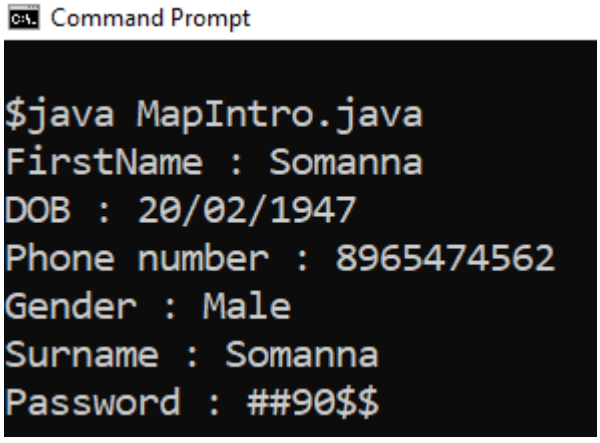
```
Command Prompt

$java MapIntro.java
FirstName
DOB
Phone number
Gender
Surname
Password
```

Here, the keySet() method returns a view of all keys**.** The variable key access each value from the view using for each loop.

## Example: To print key and value present in the HashMap

```
import java.util.HashMap;
import java.util.Set;

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using keySet() to get the set view of keys
        Set<String> keys = myDetails.keySet();

        // for-each loop access each key from the view
        for(String key : keys) {
            //printing each key and value
            System.out.println(key + " : " + myDetails.get(key));
        }
    }
}
```

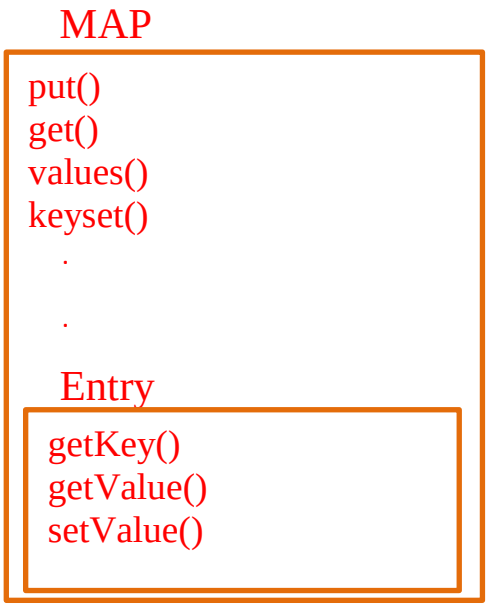
## Output:




Here, we are printing the keys using keySet() method to view all the keys present in the HashMap. Key is used to fetch the key present in the view of keys using key we are fetching the value i.e using get(key) method.

## Understanding entry and entrySet in the HashMap.

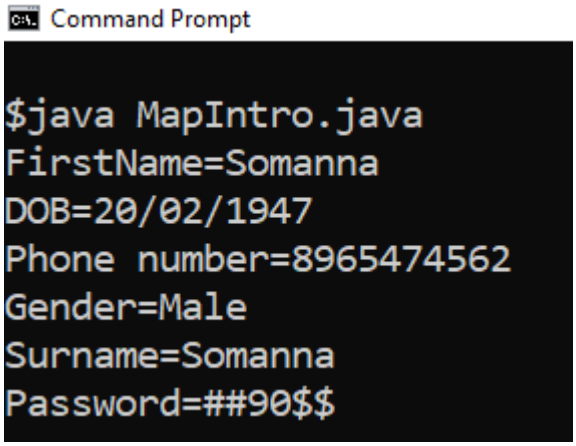
**Entry** is simple **key-value** pair, entrySet is a set of key-value pairs present inside the HashMap. Map is an interface inside which we have so many abstract methods, inside the map interface there is another interface called Entry. Inside the entry interface we have few more abstract method, let's understand all these methods with an example.




## Example: entrySet() method

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

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using entrySet() to get the set view of entrys
        Set<Entry<String, String>> entrys = myDetails.entrySet();

        // for-each loop access each key from the view
        for(Entry<String,String> entry : entrys) {
            //printing each entry
            System.out.println(entry);
        }
    }
}
```

## Output:




Here, entrySet() method returns set of entrys present in the HashMap. The variable entry access each value from the view of entrys using for each loop.

## Example: getKey() method

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

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using entrySet() to get the set view of entrys
        Set<Entry<String, String>> entrys = myDetails.entrySet();

        // for-each loop access each key from the view
        for(Entry<String,String> entry : entrys) {
            //printing each key
            System.out.println(entry.getKey());
        }
    }
}
```

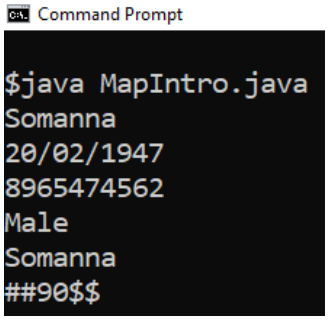
## Output:


Here, getKey() returns the key corresponding to the entry.

## Example: getValue() method

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

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using entrySet() to get the set view of entrys
        Set<Entry<String, String>> entrys = myDetails.entrySet();

        // for-each loop access each key from the view
        for(Entry<String,String> entry : entrys) {
            //printing each value
            System.out.println(entry.getValue());
        }
    }
}
```

## Output:

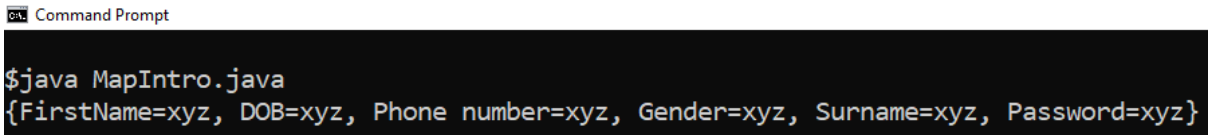



Here, getValue() method returns the value corresponding to this entry.

## Example: SetValue() method

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

public class MapIntro {

    public static void main(String[] args) {
        //Create an empty HashMap
        HashMap<String, String> myDetails = new HashMap<String, String>();

        //Adding elements to the HashMap
        myDetails.put("FirstName", "Somanna");
        myDetails.put("Surname", "Somanna");
        myDetails.put("Phone number", "8965474562");
        myDetails.put("Password", "##90$$");
        myDetails.put("DOB", "20/02/1947");
        myDetails.put("Gender", "Male");

        //Using entrySet() to get the set view of entrys
        Set<Entry<String, String>> entrys = myDetails.entrySet();

        // for-each loop access each key from the view
        for(Entry<String,String> entry : entrys) {
            //setting value of each key to xyz
            String setValue = entry.setValue("xyz");
        }
        System.out.println(myDetails);
    }
}
```

## Output:




Here, setValue() method replaces the corresponding to this entry with the specified value.