Generics

1

```
package employee;

import java.util.HashSet;
import java.util.Iterator;

public class Main {

	public static void main(String[] args) {
		HashSet<employee> set = new HashSet<employee>();

		set.add(new employee(1, "Rutuja", 30000, "IT"));
		set.add(new employee(2, "Nishad", 35000, "IT"));
		set.add(new employee(3, "Mitali", 30000, "IT"));
		set.add(new employee(4, "Trupti", 40000, "IT"));

		Iterator<employee> it=set.iterator();
		while(it.hasNext())
		{
			employee employee =(employee) it.next();
			System.out.println(employee);
		}
	}

}
&

package employee;


public class employee {

	int id;
	String name;
	int salary;
	String department;

	public employee(int id, String name, int salary, String department)
	{
		this.id=id;
		this.name=name;
		this.salary=salary;
		this.department=department;
	}

public String toString()
{
	return id+","+name+","+salary+","+department;
}
}
```

```
2,Nishad,35000,IT
4,Trupti,40000,IT
1,Rutuja,30000,IT
3,Mitali,30000,IT
```

2

```java
package generic;
import java.util.HashMap;

public class generic {

	public static void main(String[] args) {

		HashMap<Integer, Double> map= new HashMap<>();
		map.put(1, 3.1);
		map.put(2, 3.9);
		map.put(3, 3.1);
		map.put(4, 3.4321);
		map.put(5, 4.1);
		map.put(6, 6.1);
		map.put(7, 8.1);
		map.put(8, 0.15);
		map.put(9, 6.18);
		map.put(10, 8.19);

		System.out.println(map);
	}

}
```

```
<terminated> generic [Java Application] C:\Program Files\Java\jdk-16.0.2\bin\javaw.exe  (08-Aug-2021, 8:39:38 pm –
{1=3.1, 2=3.9, 3=3.1, 4=3.4321, 5=4.1, 6=6.1, 7=8.1, 8=0.15, 9=6.18, 10=8.19}
```

3

```java
package genericarray;

import java.util.ArrayList;
import java.util.List;

public class genericarray {

	public static void main(String[] args) {
		List<String> StringList= new ArrayList<String>();
		StringList.add("Rutuja");
		StringList.add("Rakvi");

		String[] StringArray= new String[StringList.size()];
		StringArray= StringList.toArray(StringArray);
```

```
		System.out.println("Array elements before swap");
		for (String e:StringArray)
		{
			System.out.println(e+"");
		}
		swap(StringArray, 0, 1);
		System.out.println("Array elements after swap");
		for (String e:StringArray)
		{
			System.out.println(e+"");
		}
	}

	public static <E> void swap(E[]arr, int i, int j)
	{
		E temp=arr[i];
		arr[i]=arr[j];
		arr[j]=temp;
	}

}
```

```
<terminated> genericarray [Java Application] C:\Program Files\Java\jdk-16.0.
Array elements before swap
Rutuja
Rakvi
Array elements after swap
Rakvi
Rutuja
```

4

```
package genericpair;

public class genericpair {

	public static void main(String[] args) {
		pair <String,String> p1= new pair<>();
		p1.setKey("1");
		p1.setValue("Hello");
		System.out.println("First Pair is " +p1.getKey()+ " and "
+p1.getValue());

		pair <String,java.util.Date> p2= new pair<>();
		p2.setKey("Today is");
		p2.setValue(new java.util.Date());
		System.out.println("Second Pair is " +p2.getKey()+ " and "
+p2.getValue());

	}

}
```

&

```java
package genericpair;

public class pair<K,V> {
	K key;
	V value;

	public K getKey() {
		return key;
	}
	public void setKey(K key) {
		this.key =key;
	}
	public V getValue() {
		return value;
	}
	public void setValue(V value) {
		this.value =value;
	}

}
```