GENERICS ASSIGNMENT

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1)HashSet

```java
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;
}
}
}
```

```java
1⊕ import java.util.HashSet;▯
3
4 public class Main {
5
6⊖     public static void main(String[] args) {
7
8       HashSet<Employee> set = new HashSet<Employee>();
9
10        set.add(new Employee(1,"Shruti",20000,"JSF"));
11        set.add(new Employee(2,"Sakshi",25000,"JSF"));
12        set.add(new Employee(3,"Yogesh",35000,"JSF"));
13        set.add(new Employee(4,"Mayu",40000,"JSF"));
14        set.add(new Employee(5,"Ritesh",25000,"JSF"));
15
16        Iterator<Employee> it=set.iterator();
17        while (it.hasNext())
18        {
19            Employee employee = (Employee) it.next();
20            System.out.println(employee);
21        }
22
23      }
24 }
```

Problems @ Javadoc 🔍 Declaration 🖳
<terminated> Main (5) [Java Application] C:\
```
4, Mayu, 40000, JSF
5, Ritesh, 25000, JSF
1, Shruti, 20000, JSF
2, Sakshi, 25000, JSF
3, Yogesh, 35000, JSF
```

2)HashMap

```java
1  import java.util.HashMap;
2  public class Generics2 {
3
4      public static void main(String[] args) {
5
6          HashMap<Integer, Double> map =new HashMap<>();
7          map.put(1,5.2);
8          map.put(2,5.3);
9          map.put(3,5.4);
0          map.put(4,5.5);
1          map.put(5,5.6);
2          map.put(6,5.7);
3          map.put(7,5.8);
4          map.put(8,5.9);
5          map.put(9,6.5);
6          map.put(10,6.23);
7
8          System.out.println(map);
9
0      }
1
2  }
```

3)

```java
 1  import java.util.ArrayList;
 2  import java.util.List;
 3
 4  public class Generics3 {
 5
 6      public static void main(String[] args) {
 7          List<Integer> intList = new ArrayList<Integer>();
 8          intList.add(10);
 9          intList.add(20);
 0
 1
 2          Integer[] intArray = new Integer[intList.size()];
 3          intArray = intList.toArray(intArray);
 4
 5          System.out.println("Before Swapping Array Elements:");
 6          for(Integer e:intArray) {
 7              System.out.print(e+" ");
 8          }
 9
 0          swap(intArray,0,1);
 1
 2          System.out.println("\nAfter Swapping Array Elements:");
 3          for(Integer e:intArray) {
 4              System.out.print(e+" ");
 5          }
 6
 7      }
 8
 9      public static <E> void swap(E[] arr,int i, int j) {
 0          E temp=arr[i];
 1          arr[i]=arr[j];
 2          arr[j]=temp;
 3      }
 4
 5  }
 6
```

<terminated> Generics3 [Java Application] C:\Program Fi
Before Swapping Array Elements:
10 20
After Swapping Array Elements:
20 10

4)

```java
1  class Pair<K,V>{
2      private K key;
3      private V value;
4      |
5      public K getKey() {
6          return key;
7      }
8      public void setKey(K key) {
9          this.key = key;
0      }
1      public V getValue() {
2          return value;
3      }
4      public void setValue(V value) {
5          this.value = value;
6      }
7
8
9  }
```

```java
1
2  public class Generic4 {
3      public static void main(String[] args) {
4
5      Pair<String,String> P1=new Pair<>();
6      P1.setKey("1");
7      P1.setValue("Hello");
8      System.out.println("For first pair Key is "+P1.getKey()+" and value is "+P1.getValue());
9
10     //Second scenario Que 4 b)
11     Pair<String,java.util.Date> P2=new Pair<>();
12     P2.setKey("Today is ");
13     P2.setValue(new java.util.Date());
14     System.out.println("For Second pair Key is "+P2.getKey()+" and value is "+P2.getValue());
15 }
16
17 }
18
```

Problems @ Javadoc Declaration Console ⅔ Error Log
<terminated> Generic4 [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (07-Aug-2021, 4:49:13
For first pair Key is 1 and value is Hello
For Second pair Key is Today is and value is Sat Aug 07 16:49:15 IST 2021