

Generics

```
package practice;  
  
import java.util.*;  
  
public class CollectionDemo {  
  
    public static void main (String [] args) {  
  
        TreeSet ts = new TreeSet();  
        ts.add(30);  
        ts.add(50);  
        ts.add(20);  
        ts.add(10);  
        ts.add(40);  
  
        System.out.println(ts);  
    }  
}
```

Output :-

[10, 20, 30, 40, 50]



```
package practice;  
  
import java.util.*;  
  
public class CollectionsDemo {  
  
    public static void main(String[] args) {  
  
        TreeSet ts = new TreeSet();  
  
        ts.add("gilly");  
        ts.add("billy");  
        ts.add("killy");  
        ts.add("zilly");  
        ts.add("tilly");  
  
        System.out.println(ts);  
  
    }  
}
```

Output :-

[billy, gilly, killy, tilly, zilly]



package practice;

import java.util.*;

public class CollectionsDemo {

public static void main (String[] args) {

TreeSet ts = new TreeSet();

ts.add("gilly");

ts.add(false);

ts.add(5.84);

ts.add(555);

ts.add('z');

System.out.println(ts);

}

}

Output :-

Exception in "main" java.lang.ClassCastException.



- * A TreeSet presents the output in the sorted order.
- * It works fine as long as we are providing homogeneous data (data of same type).
- * However, when we provide heterogeneous data to a TreeSet, it is unable to sort the data and instead returns ClassCastException.
- * To ensure that an exception is not generated we must first ensure that only homogeneous data is provided to a TreeSet.
- * For achieving this, we can make use of generics
E.g: `TreeSet<Integer> ts = new TreeSet<Integer>();`

The above statement will ensure that the TreeSet ts only stores data of the Integer type.




```
package practice;  
import java.util.*;  
public class CollectionsDemo {  
    public static void main(String[] args) {  
        TreeSet<Integer> ts = new TreeSet<Integer>();  
        ts.add("gilly");  
        ts.add(false);  
        ts.add(5.8f);  
        ts.add(555);  
        ts.add('z');  
        System.out.println(ts);  
    }  
}
```

Output:

Compile-time Error



package practice;

import java.util.*;

public class CollectionsDemo {

public static void main(String[] args) {

TreeSet<String> ts = new TreeSet<String>();

ts.add("gilly");

ts.add(false);

ts.add(5.8f);

ts.add(555);

ts.add('z');

System.out.println(ts);

}

}

Output :

Compile-time error

