Let us try now to add and sort StrigBuffer object to TreeSet. For this we have to convert StringBuffer to String, by using toString() method. For doing this we have to implement Comparator interface and define compare() method as follows:-

```
public int compare(Object obj1, Object obj2)
{
    String s1 = obj1.toString();
    String s2 = obj2.toString();
   return s1.compareTo(s2);
}
```

Q Write a prog. to insert StringBuffer objects into the TreeSet where sorting order is Alphabetical order (either ascending or descending).

```
import java.util.*;
  class TreeSet10{
     public static void main(String args[])
     {
        TreeSet t =new TreeSet(new MyComparator());
TreeSet t2= new TreeSet(new MyComparator1());
 t.add(new StringBuffer("A"));
 t.add(new StringBuffer("Z"));
 t.add(new StringBuffer("K"));
 t.add(new StringBuffer("L"));
 System.out.println("Sorting Alphabetic:");
  System.out.println(t);
```

Do it for t2 also & print the result

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```
    }
  }

   Class MyComparator implements Comparator
   {
     public int compare(Object obj1, Object obj2)
      {
          String s1 = obj1.toString();
          String s2 = obj2.toString();
        return s1.compareTo(s2);
      }
   }

 class MyComparator1 implements Comparator
 {
    public int compare (Object obj1, Object obj2)
     {
        String s1 = obj1.toString();
        String s2 = obj2.toString();
     return s2.compareTo(s1);
     }
 }
```

Here, we have defined our own Comparator, the objects therefore need not to be Comparable. Comparator is defined by us in two different ways — one for sort alphabetic ascending order(MyComparator) and another for sorting alphabetical descending order (MyComparator1)

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Let us try now to add and sort readymade objects like Employee class to TreeSet for Sorted output :- EmpSortDemo.java

```
import java.util.*;
class Employee implements Comparable{
   String empname;
   int empid;
  Employee(String nm, int eid)
   {
        this.empname=nm;
        this.empid=eid;
   }
  public String toString(){
        return empname+"--"+empid;
                     }
 public int compareTo(Object obj){
        int empid1=this.empid;
        Employee e =(Employee)obj;
        int empid2=e.empid;
            if(empid1 < empid2)
              return -1;
            else if(empid1 > empid2)
              return 1;
            else
               return 0;
      }
   }
```

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```
class EmpSortDemo{
    public static void main(String args[])
    {
   Employee e1 = new Employee("Suresh", 150);
   Employee e2 = new Employee("Mahesh", 201);
   Employee e3 = new Employee("Manish", 21);
   Employee e4 = new Employee("Ajay", 51);
   Employee e5 = new Employee("suresh", 150);
         TreeSet t = new TreeSet();
    t.add(e1); t.add(e2); t.add(e3);
    t.add(e4); t.add(e5);
  System.out.println("Employee data in natural Sorting:");
  System.out.println(t);

  TreeSet t1 = new TreeSet(new MyComparator());
     t1.add(e1); t1.add(e2); t1.add(e3);
     t1.add(e4); t1.add(e5);
  System.out.println("Employee Data based on Customized
                                          Sorting order:");
  System.out.println(t1);
  }
}
   class MyComparator implements Comparator
   {    public int compare(Object obj1, Object obj2)
        {
```

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```
        Employee e1 = (Employee)obj1;
        Employee e2 = (Employee)obj2;

       String    s1 = e1.empname;
       String    s2 = e2.empname;
       return  s1.compareTo(s2); //sort alphabetic name
     // return s2.compareTo(s1); //sort Reverse alphabetic
                                                 on name.
    }
  }
```

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