Q1. What is Mutable String in Java Explain with an example?
Ans. Once we create a string object and try to perform some operation and if those changes get reflected in the same string object then such strings are called **mutable string**.
SYNTAX:**StringBuffer** object = **new StringBuffer( );**
                    OR
          StringBuilder object = **new StringBuilder( );**

```java
public class String_Buffer {
    public static void main(String args[])
    {
        StringBuffer str = new StringBuffer("mj");
        System.out.println(str);
        StringBuilder str1 = new StringBuilder("mjChamp");
        System.out.println(str1);
    }


}
OUPUT:
mj
mj Champ
```

Q2. WAP to Reverse a string
   Input: "PWSKILLS"
   Output:"SLLIKSWP"
Ans.
```java
public class Reverse {
    public static void main(String args[])
    {
        String str1="PWSKILLS";
        String str2="";
        char ch;
        for(int i=str1.length()-1;i>=0;i--)
        {
            ch=str1.charAt(i);
            str2=str2+ch;
        }
        System.out.println("original String: "+str1);
        System.out.println("Reverse  String: "+str2);


    }
```

```
}
Output:
original String: PWSKILLS
Reverse   String: SLLIKSWP
```

Q3.WAP to reverse a sentence while preserving the position
    Input: "think twice"
    Output:"kniht eciwt "
Ans.

```java
public class Reverse_preserving_pos {
    public static void main(String args[])
    {
        // Input: "think twice"
        // Output:"kniht eciwt"

        String str1="think twice";
        String str2="";
        String str3="";
        char ch;
        for(int i=str1.length()-1;i>=0;i--)
        {
            ch=str1.charAt(i);
            str2=str2+ch;
        }
        System.out.println("original String: "+str1);
        String arr[]=str2.split(" ");

        for(int i=arr.length-1;i>=0;i--)
        {
            str3=str3+arr[i]+" ";
        }
        System.out.println("Reverse  String: "+str3);


    }
}
Output:
original String: think twice
Reverse   String: kniht eciwt
```

Q4.WAP to sort a string Alphabatically.

Ans.

```java
public class Sorting_of_String {
    public static void main(String args[]) {
        String str = "zyxwvutsrqponmlkjihgfedcba";
        int count = 0;
        char x;
        str = str.toLowerCase();
        System.out.println("Original String: "+str);
        char str1[] = str.toCharArray();
        for (int i = 0; i < str1.length; i++) {
            for (int j = i + 1; j < str1.length; j++) {

                if (str1[j] < str1[i]) {
                    x = str1[i];
                    str1[i] = str1[j];
                    str1[j] = x;
                }
            }
        }
        System.out.print("Sorted String: ");
        for (int j = 0; j < str1.length; j++) {
            System.out.print(str1[j]);

        }

    }
}
Output:
Original String: zyxwvutsrqponmlkjihgfedcba
Sorted String: abcdefghijklmnopqrstuvwxyz
```