1.What is Mutable string in java with an example ?

ANSWER:-
A Mutable string in Java is a string object that can be changed after it has been created. Unlike Java's built-in string type (String), mutable strings can be altered without creating a new object. This makes them useful for performance optimization in certain situations.

An example of a mutable string in Java is the StringBuilder class:
Example:-

StringBuilder sb = new StringBuilder("Hello");
sb.append(" World!");
System.out.println(sb);

Output:-
Hello World

This code creates a StringBuilder object with the initial value "Hello". The append() method is then used to add the string " World!" to the end of the string. The final result is "Hello World!" printed to the console.

2.Write a program to reverse a string ?
Input :"PWSKILLS"
Output:"SLLIKSWP"

ANSWER:-
```
import java.util.Scanner;
public class StringRevCases {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("enter the string : ");
        //case 1 and case 3
        String s1=sc.nextLine();
        String s2="";
        for(int i=s1.length()-1;i>=0;i--){
            s2=s2+s1.charAt(i);
        }
        System.out.println(s2);
}

}
```
Output:-
enter the string:
PWSKILLS
SLLIKSWP

3.Write a program to reverse a sentence while preserving the position ?
ANSWER:-

```java
import java.util.Scanner;
public class StringRevCases {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("enter the string : ");
 String s1=sc.nextLine();
        String s2="";
        String sarr[]=s1.split(" ");
        for(String ele :sarr){
           for(int i=ele.length()-1;i>=0;i--){
               s2=s2+ele.charAt(i);
           }
           s2=s2+" ";
        }
        System.out.println(s2);
    }
}
```

Output:-
enter the string:
Think Twice
knihT eciwT

4.Write a program to sort a string alphabetically ?
ANSWER:-

```java
import java.util.Arrays;
public class AlphaSort {
    public static void main(String[] args) {
        String input = "cabefgd";
        char[] charArray = input.toCharArray();
        Arrays.sort(charArray);
        String sorted = new String(charArray);
    System.out.println(input);
        System.out.println(sorted);
     }
   }
```

output:-

cabefgd
abcdefg