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CSCE-1

WT LAB ASSIGNMENT 31 MAR

Q1

1. Write a program in java to perform following operations on user entered strings
   a) Change the case of the string
   b) Reverse the string
   c) Compare two strings
   d) Insert one string into another string

```
import java.util.Scanner;

public class Q1 {
   static void case_change(String str){
      StringBuffer newStr=new StringBuffer(str);

      for(int i = 0; i < str.length(); i++) {
         if(Character.isLowerCase(str.charAt(i))) {
            newStr.setCharAt(i, Character.toUpperCase(str.charAt(i)));
         }
         else if(Character.isUpperCase(str.charAt(i))){
            newStr.setCharAt(i, Character.toLowerCase(str.charAt(i)));
         }
      }

      System.out.println("String after case conversion : " + newStr);
   }

   static void reverse_string(String str){
      StringBuffer newStr = new StringBuffer(str);
      newStr.reverse();
      System.out.println("String after reversing : "+newStr);
   }


   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter any String: ");
```

```
        String myString = sc.nextLine();
        case_change(myString);
        reverse_string(myString);
        System.out.print("Enter another String: ");
        String myNewString = sc.nextLine();
        if(myString.equals(myNewString))
           System.out.print(myString+" and "+myNewString+" are Equal");
        else
           System.out.print(myString+" and "+myNewString+" are not
Equal");
        System.out.print("\nString after Concatenation :
"+myString.concat(myNewString));
        sc.close();
    }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>java Q1
Enter any String: Srijan
String after case conversion : sRIJAN
String after reversing : najirS
Enter another String: Verma
Srijan and Verma are not Equal
String after Concatenation : SrijanVerma
```

Q2

2. Write a program in java to demonstrate the following String functions on any example using String class

a. join()
b. isEmpty()
c. replace()
d. split()
e. subString()

```
public class Q2{
   public static void main(String[] args) {

      String myString1 = "Srijan";
      String myString2 = "Verma";

      myString1 = String.join(" ",myString1,myString2);
      System.out.println("String After Joining: "+myString1);

      System.out.println("Is the Stirng is Empty: "+myString1.isEmpty());

      myString1 = myString1.replace("Verma","Hi");
      System.out.println("String After Replacing: "+myString1);

      String[] words=myString1.split("\\s"); //splits the string based on
whitespace
      System.out.println("String After Spliting: ");
      for(String w:words){
         System.out.println(w);
      }
      System.out.println("A substring of the original string is:
"+myString1.substring(6,10));
   }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>java Q2
String After Joining: Srijan Verma
Is the Stirng is Empty: false
String After Replacing: Srijan Hi
String After Spliting:
Srijan
Hi
```

Q3

3. Write a program in java to demonstrate the following stringBuffer functions on the string "Java is my favorite Programming Language"
   a. append()
   b. insert()
   c. delete()
   d. ensureCapacity()
   e. capactity()
   f. reverse()

```
public class Q3{
   public static void main(String[] args) {

      StringBuffer myStr = new StringBuffer("Java is my favorite
Programming Language");
      System.out.println("Original String: "+myStr);

      myStr.append(" so far");
      System.out.println("After Appending: "+myStr);

      myStr.insert(4," and Javascript");
      System.out.println("After Inserting: "+myStr);

      myStr.delete(0,9);
      System.out.println("After Deleting: "+myStr);

      System.out.println("Current Capacity: "+myStr.capacity());
      myStr.ensureCapacity(120);
      System.out.println("After Ensure Capacity: "+myStr.capacity());

      myStr.reverse();
      System.out.println("After Reverse: "+myStr);
   }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>java Q3
Original String: Java is my favorite Programming Language
After Appending: Java is my favorite Programming Language so far
After Inserting: Java and Javascript is my favorite Programming Language so far
After Deleting: Javascript is my favorite Programming Language so far
Current Capacity: 114
After Ensure Capacity: 230
After Reverse: raf os egaugnaL gnimmargorP etirovaf ym si tpircsavaJ
```

Q4

4. Write a program in java which will create an LinkedList and do some operations on it.

```
import java.util.*;
public class Q4
{
         public static void main(String[] args) {
                  LinkedList<String> al=new LinkedList<String>();
        al.add("Srijan");
        al.add("Triyam");
        al.add("Swarnavo");
        al.add("Shubham");
       al.add("Shubhayu");

        Iterator<String> itr=al.iterator();
        while(itr.hasNext()){
         System.out.println(itr.next());
        }
   }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>java Main
Srijan
Triyam
Swarnavo
Shubham
Shubhayu
```

Q5

5. Write a program in java to write Your details like roll number, name, branch and university into a File called "Student.txt". Now read the same file and display the details on the Terminal. Write two separate programs using following classes

a. FileInputStream and FileOutputStream
b. FileReader and FileWriter

5A-

```
import java.io.FileInputStream;
public class Q5a{
   public static void main(String[] args) {
      try {
         FileInputStream fin=new FileInputStream("Student.txt");
         int i=0;
         while((i=fin.read())!=-1){
            System.out.print((char)i);
         }
         fin.close();
      } catch (Exception e) {
         System.out.println(e);
      }
   }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>javac Q5a.java

C:\Users\KIIT\Desktop\wt lab 14>java Q5a
name -srijan verma
roll- 1929057
```

Q5b

```
import java.io.FileReader;
public class Q5b{
   public static void main(String[] args) {
      try {
         FileReader fr = new FileReader("Student.txt");
         int i;
         while((i=fr.read())!=-1)
            System.out.print((char)i);
         fr.close();
      } catch (Exception e) {
         System.out.println(e);
      }
   }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>javac Q5b.java

C:\Users\KIIT\Desktop\wt lab 14>java Q5b
name -srijan verma
roll- 1929057
```

Q6

6. Write a program in java to read and convert all '@' symbols in a file to '#' Symbol

```
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;

public class Q6{
   static void modifyFile(String filename, String oldString, String
newString){

      File fileToBeModified = new File(filename);
      String oldContent = "";
      BufferedReader reader = null;
      FileWriter writer = null;

      try{
         reader = new BufferedReader(new FileReader(fileToBeModified));
         String line = reader.readLine();

         while (line != null){
            oldContent = oldContent + line + System.lineSeparator();

            line = reader.readLine();
         }

         String newContent = oldContent.replaceAll(oldString, newString);
         writer = new FileWriter(fileToBeModified);
         writer.write(newContent);
      }
      catch (IOException e){
         e.printStackTrace();
      }
      finally{
         try{
            reader.close();
            writer.close();
```

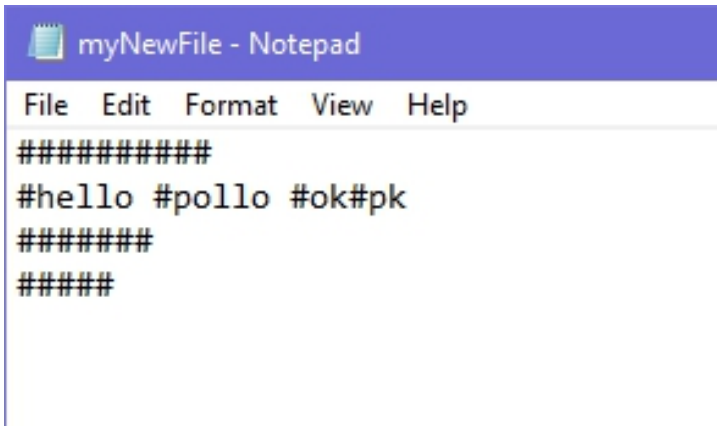
```
            }
            catch (IOException e){
               e.printStackTrace();
            }
         }
      }

      public static void main(String[] args) {
         modifyFile("myNewFile.txt", "@", "#");

         System.out.println("Converted all '"+(char)64+"' symbols to
'"+(char)35+"' Symbol");
      }
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>javac Q6.java

C:\Users\KIIT\Desktop\wt lab 14>java Q6
Converted all '@' symbols to '#' Symbol
```



Q7

7. Write a program in Java to copy the content of a given file to another.

```
import java.io.*;
public class Q7{
	public static void main(String[] args){
		try{
			FileReader fr = new FileReader("input.txt");
			BufferedReader br = new BufferedReader(fr);
			FileWriter fw = new FileWriter("output.txt", true);
			int s;
			while((s = br.read()) != -1) {
				fw.write((char)s);

				fw.flush();
			}
			br.close();
			fw.close();

			System.out.println("File copied successfully!");
		}
		catch(IOException e){
			e.printStackTrace();
		}
	}
}
```

```
C:\Users\KIIT\Desktop\wt lab 14>javac Q7.java

C:\Users\KIIT\Desktop\wt lab 14>java Q7
File copied successfully!
```