**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 stringOperations {

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();

}

}

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

**import java.io.\*;**

public class Q4{

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);

String s;

while((s = br.readLine()) != null) { // read a line

fw.write(s); // write to output file

fw.flush();

}

br.close();

fw.close();

System.out.println("File copied successfully!");

}

catch(IOException e){

e.printStackTrace();

}

}

}

**8. Design an applet to display the user information such as Roll No., Name, Branch and Section in separate lines.**

import java.applet.\*;

import java.awt.\*;

public class Q8 extends Applet{

@Override

public void paint(Graphics g){

g.drawString("Name: Kaustav Saha",50,100);

g.drawString("Roll No: 1929018",50,120);

g.drawString("Branch: CSCE",50,140);

}

}

/\*

<applet code = "Q8.class" width = "320" height = "120"></applet>

\*/

**9. Design an applet to display a colored smiley.**

import java.applet.\*;

import java.awt.\*;

public class Q9 extends Applet{

public void paint(Graphics g){

g.setColor(Color.YELLOW); //color of face

g.fillOval(200,200,200,200); //face

g.setColor(Color.BLACK); //color of eye

g.fillOval(260,250,15,25); //left eye

g.fillOval(330,250,15,25); //right eye

g.drawArc(260,300,90,50,0,-180);

}

}

/\*

<applet code = "Q9.class" width = "320" height = "120"></applet>

\*/

**10. Design an applet with following components on it – Label, Textbox, Text area, Checkbox, Radio button and Button.**

import java.applet.\*;

import java.awt.\*;

/\*<applet code="Q10" width=500 height=200></applet>\*/

public class Q10 extends Applet{

public void init(){

Button b=new Button("This is Button");

add(b);

Label l=new Label("This is Label");

add(l);

Checkbox mycheckbox = new Checkbox("This is Checkbox");

add(mycheckbox);

CheckboxGroup cbg = new CheckboxGroup();

Checkbox radiobutton = new Checkbox("This is Radio Button ", cbg, false);

add(radiobutton);

TextField t=new TextField("This is a TextBox");

add(t);

TextArea area=new TextArea("This is a Text Area");

add(area);

}

}

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

import java.util.\*;

public class LinkedList1{

 public static void main(String args[]){

  LinkedList<String> al=new LinkedList<String>();

  al.add("Soumodeep");

  al.add("Arnab");

  al.add("Shubhayu");

  al.add("Sambaran");

  Iterator<String> itr=al.iterator();

  while(itr.hasNext()){

   System.out.println(itr.next());

  }

 }

}

**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");

}

}

**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 = "Arnav";

String myString2 = "Rendi";

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("Rendi","Chutiya");

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));

}

}

**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);

}

}

**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**

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);

}

}

}

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);

}

}

}