Assignment-08

/* Reg no- 2021pgcaca001

1) Write a java program to input two strings str1, str2, and a length k, and output whether both string has a common substring of length k. If found, write the initial index of matching substring of both str1 and str2.

Str1= “machester united”

str2=”christian ronaldo”

length=2

output = True, 2, 0 */

```
import java.util.Scanner;

class Assignment_08_Question1 {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String first : ");
        String str1 = sc.nextLine();
        System.out.println("Enter String Second : ");
        String str2 = sc.nextLine();
        System.out.println("Enter the length of the substring : ");
        int len = sc.nextInt();
        int count = 0;
        for (int i = 0; i + len <= str1.length(); i++) {
            String tmp1 = str1.substring(i, i + len);
            for (int j = 0; j + len <= str2.length(); j++) {
                String tmp2 = str2.substring(j, j + len);
                {
                    if (tmp1.equals(tmp2)) {
```

```
                System.out.println("True : " + i + " " + j);
                return;
              }
            }
          }

      }
      System.out.println("Substring of lenght " + len + " not found");

  }

}
/* 2) Write a java program to input a string and perform inserting, replacing, and deleting a
substring using build-in methods. */
public class Assignment_08_Question2 {
  public static void main(String args[])
  {
    StringBuffer sc = new StringBuffer("Hello man");
    System.out.println("String before operation : "+ sc);
    sc.insert(5,"insert");
    System.out.println("String after insertion :"+ sc);
    sc.replace(0, 5, "replace");
    System.out.println("String after insert replace : "+ sc);
    sc.delete(0, 7);
    System.out.println("String after deletion : "+ sc);
  }
}
```

```
/* 3) Write a java program to perform character circular left and right shift with the given
number of times.
Example: oliver
output: left by 2 -> iverol
right by 5 -> livero
 */
import java.util.Scanner;

public class Assignment_08_Question3 {
   public static void main(String args[]) {
      StringBuffer sc = new StringBuffer("oliver");
      boolean f = true;
      Scanner in = new Scanner(System.in);
      while (true) {
         System.out.println("1) left by \n2) right by \n3) exit \n Enter your choice : ");
         int choice = in.nextInt();
         switch (choice) {
            case 1:
               System.out.println("Enter upto how many you want shifting : ");
               int l = in.nextInt();
               String t = sc.substring(0, l);
               sc.append(t);
               sc.delete(0, l);
               System.out.println("New string : " + sc);
               break;
            case 2:
               System.out.println("Enter upto how many string you want to shift :");
               int r = in.nextInt();
```

```
            String temp = sc.substring(sc.length() - r, sc.length());
            sc.delete(sc.length() - r, sc.length());
            sc.insert(0, temp);
            System.out.println("New string : " + sc);
            break;
          case 3:
            f = false;
            break;
          default:
            System.out.println("Please enter valid input!!");
        }
      }
    }
}
```

Assignment-08

```
/*Reg No- 2021pgcaca001
 1) Write a program to use ArrayList to implement railway ticket booking operations
 */
import java.util.*;

class Railwayticket {

   ArrayList<String> a;
   int max;

   Railwayticket(int max) {
      this.a = new ArrayList<>();
```

```
    this.max = max;
}

void bookticket() {
    if (this.a.size() >= this.max) {
        System.out.println("no ticket available");
    } else {
        System.out.println("enter name of the candidate");
        Scanner in = new Scanner(System.in);
        String name = in.next();
        a.add(name);
        System.out.println("ticket booked");
    }
}

void cancelticket() {
    System.out.println("enter name of the candidate whose ticket you want to cancel");
    Scanner in = new Scanner(System.in);
    int index = -1;
    String name = in.next();
    for (int j = 0; j < this.a.size(); j++) {
        String t = a.get(j);
        if (name.equals(t) == true) {
            a.remove(j);
            index = j;
```

```
            break;
          }
        }
        if (index == -1)
          System.out.println("No data found \n please enter valid name ");
        else
          System.out.println("Ticket canceled");
    }

    void ticketleft() {
        int ans = max - a.size();
        System.out.println("ticket left : " + ans);
    }
}

class Assignment_09_Question1 {
    public static void main(String args[]) {
        Railwayticket r1 = new Railwayticket(10);
        boolean f = true;
        while (f) {
            System.out.println("\n********MENU********\n1: bookticket \n2: cancelticket
\n3: ticketleft \n4:exit \n Please choose valid option ");
            Scanner in = new Scanner(System.in);
            int c = in.nextInt();
            switch (c) {
                case 1:
```

```
                r1.bookticket();
                break;
            case 2:
                r1.cancelticket();
                break;
            case 3:
                r1.ticketleft();
                break;
            case 4:
                f = false;
                break;
            default:
                System.out.println("Please enter valid option");
        }
    }
  }


}
/*2) Write a program to use HashMap to implment login id and password database. Use the
same to verify the username and password of a given user.
 */
import java.util.*;


class login {
   HashMap<String, String> map;
```

```
    login() {
        map = new HashMap<>();
    }

    void sign_in() {
        System.out.println("Enter your login id and password");
        Scanner in = new Scanner(System.in);
        String id = in.next();
        String password = in.next();
        map.put(id, password);
        System.out.println("Succesfully sign in");
    }

    void log_in() {
        System.out.println("Enter your login id and password");
        Scanner in = new Scanner(System.in);
        String i = in.next();
        String p = in.next();
        if (map.containsKey(i) && p.equals(map.get(i))) {
            System.out.println("succesfully login");
        } else
            System.out.println("please enter valid id or password");
    }
}
```

```
public class Assignment_09_Question2 {
    public static void main(String args[]) {
        login l1 = new login();
        boolean f = true;
        while (f) {
            System.out.println("\n********MENU*********\n1: login \n2: sigin \n3: exit
\nplease choose valid option ");
            Scanner in = new Scanner(System.in);
            int c = in.nextInt();
            switch (c) {
                case 1:
                    l1.log_in();
                    break;
                case 2:
                    l1.sign_in();
                    break;
                case 3:
                    f = false;
                    break;
                default:
                    System.out.println("please enter valid option");
            }
        }
    }
}
```

```
/* 3) Use random class to implement blackjack card game. */
import java.util.*;

public class Assignment_09_Question3 {
   String input;
   char reDo;
   Scanner keyboard = new Scanner(System.in);
   Random random = new Random();
   int card1 = random.nextInt(10) + 1;
   int card2 = random.nextInt(10) + 1;
   int card = random.nextInt(10) + 1;
   int total1 = card1 + card2;
   int total2 = total1 + card;

   System.out.print("First cards: "+card1+", "+card2+"\n");System.out.print("Total:
"+total1+"\n");

   boolean loop = true;while(loop)
   {
      System.out.print("Do you want another card? (y/n): ");
      input = keyboard.nextLine();
      reDo = input.charAt(0);
      if (reDo == 'y' || reDo == 'Y') {
         System.out.print("Card: " + card + "\n");
         System.out.print("Total: " + total2 + "\n");
      } else if (reDo == 'n' || reDo == 'N') {
```

```
            loop = false;
        }
    }
}
}
```

Assignment-10

```
/* Reg no- 2021pgcaca001
1) Write a java program using swing to find factorial of a number. User is allowed to enter a
number into the text field whose factorial is to be determined and displayed on a JLabel.
*/
import java.awt.*;
import javax.swing.*;
import java.awt.event.*;

class Assignment_10_question1 extends JFrame {
    JTextField t1, t2;

    Assignment_10_question1() {
        JLabel l1 = new JLabel("Enter Number: ");
        JLabel l2 = new JLabel("Factorial of Input Number: ");
        t1 = new JTextField(20);
        t2 = new JTextField(20);
        JPanel p = new JPanel(new GridLayout(3, 2));
        JButton b = new JButton("Calculate");
```

```
    b.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            String number = t1.getText();
            int num = Integer.parseInt(number);
            long fac = num;
            for (int i = num; i > 1; i--) {
                fac = fac * (i - 1);
            }
            t2.setText(Long.toString(fac));

        }
    });
    p.add(l1);
    p.add(t1);
    p.add(l2);
    p.add(t2);
    p.add(b);
    add(p);
    setVisible(true);
    pack();
}

public static void main(String[] args) {
    Assignment_10_question1 f = new Assignment_10_question1();
}
```

```
}

/*2) Write a java program using swing to create three buttons. On clicking the first
button it displays “Good Morning”, clicking the second button displays “Hello” and
clicking the third button displays “Welcome”. */
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

class Assignment_10_question2 {
   JLabel jlab;

   Assignment_10_question2() {
      JFrame jfrm = new JFrame("An Event Example");
      jfrm.setLayout(new FlowLayout()); // Specify FlowLayout for the layout manager.
      jfrm.setSize(220, 90);
      jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

      JButton jbtnFirst = new JButton("First");
      JButton jbtnSecond = new JButton("Second");
      JButton jbtnThird = new JButton("Third");

      jbtnFirst.addActionListener(new ActionListener() { // Add action listener for First.
         public void actionPerformed(ActionEvent ae) {
            jlab.setText("Good Morning.");
```

```
        }
      });
      jbtnSecond.addActionListener(new ActionListener() { // Add action listener for
Second.
        public void actionPerformed(ActionEvent ae) {
          jlab.setText("Hello.");
        }
      });
      jbtnThird.addActionListener(new ActionListener() { // Add action listener for Beta.
        public void actionPerformed(ActionEvent ae) {
          jlab.setText("Welcome.");
        }
      });

      jfrm.add(jbtnFirst);
      jfrm.add(jbtnSecond);
      jfrm.add(jbtnThird);
      jlab = new JLabel("Press a button."); // Create a text-based label.

      jfrm.add(jlab);
      jfrm.setVisible(true);
    }

    public static void main(String args[]) {
      SwingUtilities.invokeLater(new Runnable() { // Create the frame on the event
dispatching thread.
```

```
        public void run() {
            new Assignment_10_question2();
        }
      });
   }
}
/*3) Write a java program to create a button with the name of three countries and on
clicking a button it display the flag image of the respective country. */
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Assignment_10_question3 implements ActionListener {

   JLabel l4;
   JButton l1,l2,l3;

   JFrame jf;
   Assignment_10_question3() {
      jf = new JFrame("Flags");
      l1 = new JButton("INDIA");
      l1.setBounds(30,50,150,50);

      l2 = new JButton("CHINA");
      l2.setBounds(30,120,150,50);
```

```
    l4 = new JLabel();
    l4.setBounds(300,50,500,400);
    l3 = new JButton("RUSSIA");
    l3.setBounds(30,190,150,50);
    jf.add(l1);
    jf.add(l2);

    jf.add(l3);
    jf.add(l4);
    l1.addActionListener(this);
    l2.addActionListener(this);
    l3.addActionListener(this);
    jf.setSize(900, 900);
    jf.setLayout(null);
    jf.setVisible(true);
    //b1.addActionListener(this);
}

@Override
public void actionPerformed (ActionEvent e){
    String st=e.getActionCommand();
    if(st.equals("INDIA"))
    {
        ImageIcon img=new ImageIcon("india.jpg");
        l4.setIcon(img);
```

```
        }
        else  if(st.equals("CHINA"))
        {
           ImageIcon img=new ImageIcon("china.jpg");
           l4.setIcon(img);
        }

        else  if(st.equals("RUSSIA"))
        {
           ImageIcon img=new ImageIcon("russia.jpg");
           l4.setIcon(img);
        }
    }

    public static void main(String[] args)
    {
        new Assignment_10_question3();
    }
}
```

/*4) Write a program in java for dress item purchasing and billing using checkbox in swing. */

```
import javax.swing.*;
import java.awt.*;
```

```
import java.awt.event.*;
import java.awt.event.ActionListener;
public  class question4 extends JFrame implements ActionListener{
JCheckBox ch1,ch2,ch3,ch4,ch5;
JFrame jf;
JButton b1,b2;
JLabel l1,l2,l3,l4,l5;
question4()
{  jf=new JFrame("Men's suit collection");
   ch1=new JCheckBox("Suit 1 Price @1000");
   ch1.setBounds(150,50,200,100);
   ch2=new JCheckBox("Suit 2 Price @1500");
   ch2.setBounds(150,160,200,100);
   ch3=new JCheckBox("Suit 3 Price @1200");
   ch3.setBounds(150,270,200,100);
   ch4=new JCheckBox("Suit 4 Price @1300");
   ch4.setBounds(150,380,200,100);
   ch5=new JCheckBox("Suit 5 Price @1700");
   ch5.setBounds(150,490,200,100);

   l1=new JLabel();
   l1.setIcon(new ImageIcon("1.jpg"));
   l2=new JLabel();
   l2.setIcon(new ImageIcon("2.jpg"));
   l3=new JLabel();
```

```
l3.setIcon(new ImageIcon("3.jpg"));
l4=new JLabel();
l4.setIcon(new ImageIcon("4.jpg"));
l5=new JLabel();
l5.setIcon(new ImageIcon("5.jpg"));
l1.setBounds(50,50,100,100);
l2.setBounds(50,160,100,100);
l3.setBounds(50,270,100,100);
l4.setBounds(50,380,100,100);
l5.setBounds(50,490,100,100);


b1=new JButton("Proceed to buy");
b1.setBounds(400,200,150,50);
b2=new JButton("clear");
b2.setBounds(400,340,100,50);
jf.add(ch1);
jf.add(ch2);
jf.add(ch3);
jf.add(ch4);
jf.add(ch5);
jf.add(b1);
jf.add(b2);
jf.add(l1);
jf.add(l2);
```

```
    jf.add(l3);
    jf.add(l4);
    jf.add(l5);
    jf.setSize(600,1000);

    b1.addActionListener(this);
    b2.addActionListener(this);
   jf.setLayout(null);
    jf.setVisible(true);
    jf.setDefaultCloseOperation(EXIT_ON_CLOSE);

}

    @Override
    public void actionPerformed(ActionEvent e) {
        String str=e.getActionCommand();
        if(str.equals("Proceed to buy"))
        {
          int amount=0;
          String s="";
          if(ch1.isSelected()){
             amount+=1000;
             s+="Suit 1=1000 rs\n";
          }
           if(ch2.isSelected()){
```

```
        amount+=1500;
        s+="Suit 2=1500 rs\n";
    }
    if(ch3.isSelected()){
        amount+=1200;
        s+="Suit 3=1200 rs\n";
    }
    if(ch4.isSelected()){
        amount+=1300;
        s+="Suit 4=1300 rs\n";
    }
    if(ch5.isSelected()){
        amount+=1700;
        s+="Suit 5=1700 rs\n";
    }

    s+="_____\n";
    JOptionPane.showMessageDialog(this,s+"Total: "+amount);

}
if(str.equals("clear"))
{
    ch1.setSelected(false);
    ch2.setSelected(false);
    ch3.setSelected(false);
```

```
            ch4.setSelected(false);
            ch5.setSelected(false);


        }
    }
    public static void main(String[] args)
    {
        new question4();
    }
}
```