ARIGNAR ANNA GOVERNMENT ARTS AND SCIENCE COLLEGE

KARAIKAL – 609605

Java Lab - Record
November - 2023

III-Semester

Reg. No. :_____

Name :_____

DEPARTMENT OF COMPUTER SCIENCE

AAGASC - KARAIKAL

ARIGNAR ANNA GOVERNMENT ARTS AND SCIENCE COLLEGE, KARAIKAL-609605

DEPARTMENT OF COMPUTER SCIENCE

Certified that this is the bonafide record of practical work done by Mr. / Miss ……..

Reg. No. …… of II-Year B.Sc. Computer Scienceduring the III-Semester in the academic year 2023-24.

STAFF IN CHARGE **HEAD OF THE DEPARTMENT**

Submitted for the University Examination held on ……

EXTERNAL EXAMINER **INTERNAL EXAMINER**

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1) Write a java program to find the Fibonacci series

```
import java.util.Scanner;
class  Fib {
public static void main(String args[ ]) {
        Scanner input=new Scanner(System.in);
        int i,a=0,b=1,c=0,t;
        System.out.println("Enter value of t:");
        t=input.nextInt();
        System.out.print(a);
        System.out.print(" "+b);
        for(i=0;i<t-2;i++) {
        c=a+b;
        a=b;
        b=c;
        System.out.print(" "+c);
}
        System.out.println();
        System.out.print(t+"th value of the series is: "+c);
}
}
```

Output:

Enter value of t: 10

0 1 1 2 3 5 8 13 21 34

10th value of the series is: 34

2) Write a java program for Method overloading and Constructor overloading.

```
// Method overloading in Java.

class Sum {
  void sum(int x, int y)
 {
    int z=x+y;
    System.out.println("Ans "+z);
 }
   void sum(int x, int y, int z)
 {
    int m=x+y+z;
    System.out.println("Ans "+m);
 }
  void sum(double x, double y)
 {
    double z=x+y;
    System.out.println("Ans "+z);
 }
public  static void main(String args[])
 {
 Sum s = new Sum();
 s.sum(10, 20);
 s.sum(10, 20, 30);
 s.sum(10.5, 20.5);
 }
}
```

Output :

```
Ans 30
Ans 60
Ans 31.0
```

3) Write a java program for Employee data using Object Array

```
import java.util.Scanner;
 class Employee
 {
        int Id;
        String Name;
        int Age;
        long Salary;
        void GetData()
        {
                Scanner sc = new Scanner(System.in);
                System.out.print("\n\tEnter Employee Id : ");
                Id = Integer.parseInt(sc.nextLine());
                System.out.print("\n\tEnter Employee Name : ");
                Name = sc.nextLine();
                System.out.print("\n\tEnter Employee Age : ");
                Age = Integer.parseInt(sc.nextLine());
                System.out.print("\n\tEnter Employee Salary : ");
                Salary = Integer.parseInt(sc.nextLine());
        }
        void PutData()
       {
                System.out.print("\n\t" + Id + "\t" +Name + "\t" +Age + "\t"
       +Salary);
        }
        public static void main(String args[])
        {
                Employee[] Emp = new Employee[3];
                int i;
                for(i=0;i<3;i++)
                        Emp[i] = new Employee();
                for(i=0;i<3;i++)
                {
                        System.out.print("\nEnter details of "+ (i+1) +"
                       Employee\n");
```

```
                Emp[i].GetData();
            }
            System.out.print("\nDetails of Employees\n");
            for(i=0;i<3;i++)
                Emp[i].PutData();
        }
}
```

Output

```
Enter details of 1 Employee
        Enter Employee Id : 101
        Enter Employee Name : Kannan
        Enter Employee Age : 40
        Enter Employee Salary : 50000
Enter details of 2 Employee
        Enter Employee Id : 102
        Enter Employee Name : Senthil
        Enter Employee Age : 35
        Enter Employee Salary : 65000
Enter details of 3 Employee
        Enter Employee Id : 103
        Enter Employee Name : Mani
        Enter Employee Age : 28
        Enter Employee Salary : 84000
Details of Employees
        101    Kannan      40     50000
        102    Senthil     35     65000
        103    Mani  28     84000
```

4) Write a java program that checks whether a given string is palindrome or not.

```
import java.util.Scanner;
class Palindrome
{
 public static void main(String args[])
 {
        String st, rev = "";
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a string:");
        st = sc.nextLine();
        int length = st.length();
        for ( int i = length - 1; i >= 0; i-- )
        rev = rev + st.charAt(i);
        if (st.equals(rev))
        System.out.println(st+" is a palindrome");
        else
        System.out.println(st+" is not a palindrome");
 }
}
```

Output

```
Enter a string:
malayalam
malayalam is a palindrome

Enter a string:
karaikal
karaikal is not a palindrome
```

5. Write java program to illustrate inheritance

```
class Animal {
  public void move() {
    System.out.println("Animals can move");
  }
}

class Dog extends Animal {
  public void move() {
    System.out.println("Dogs can walk and run");
  }
  public static void main(String s[]) {
    Animal a = new Animal();
    Animal b = new Dog();
    a.move();
    b.move();
  }
}
```

Output:

```
Animals can move
Dogs can walk and run
```

6. Illustrate Interface and static method

```
public interface MyInterface {
   public void add(int x,int y);
   public void sub(int x,int y);
   public void divide(double x,double y);
}

public class TestInterface implements MyInterface
{
   public void add(int x, int y) {
      int z;
      z=x+y;
      System.out.println(z);
   }
   public void sub(int x, int y) {
      int z;
      z=x-y;
      System.out.println(z);
   }
   public void divide(double x, double y) {
      double z;
      z=x+y;
      System.out.println(z);
   }
   public static void main(String s[]){
     TestInterface t=new TestInterface();
     t.add(10, 20);
     t.sub(20, 5);
     t.divide(25, 2);
   }
}
```

Output

```
30
15
27.0
```

7. Program to illustrate Exception Handling

```
public class ExcepHand {
   public static void main(String s[]){
      int a,b,c;
      try
      {
         a=10;
         b=2;                    // put b=0 (it will raise exception)
         c=a/b;
         System.out.println("Ans "+c);
      }catch(ArithmeticException e){
         System.out.println(e.getMessage());
      }
      System.out.println("Thank you");
   }
}
```

Output

b=0

/ by zero

Thank you

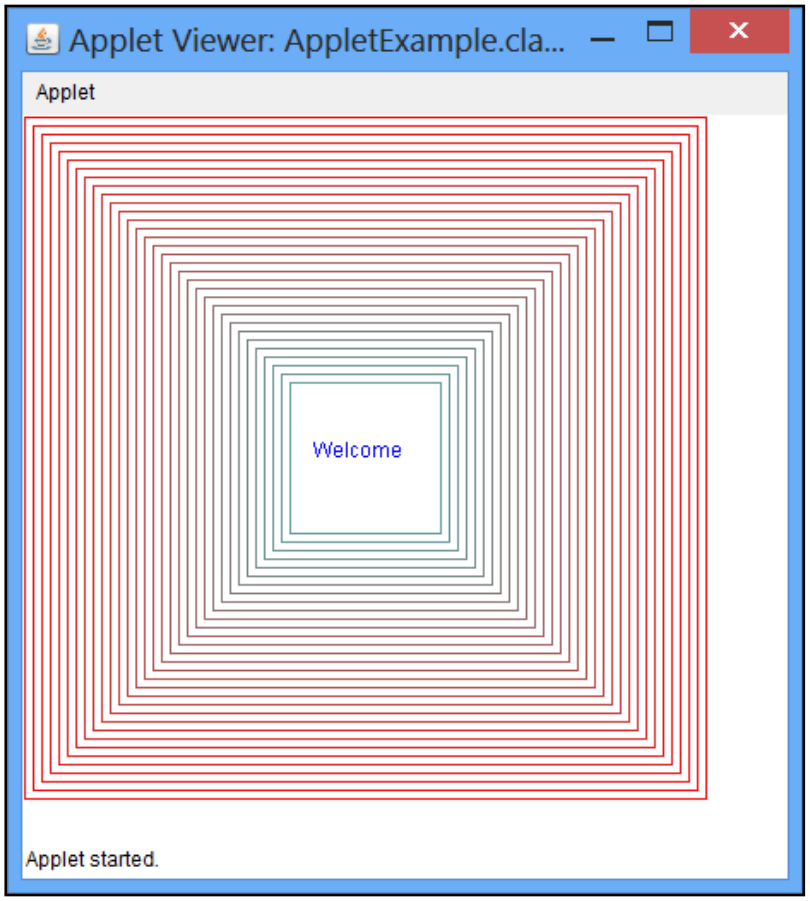
b=2

Ans 5

Thank you

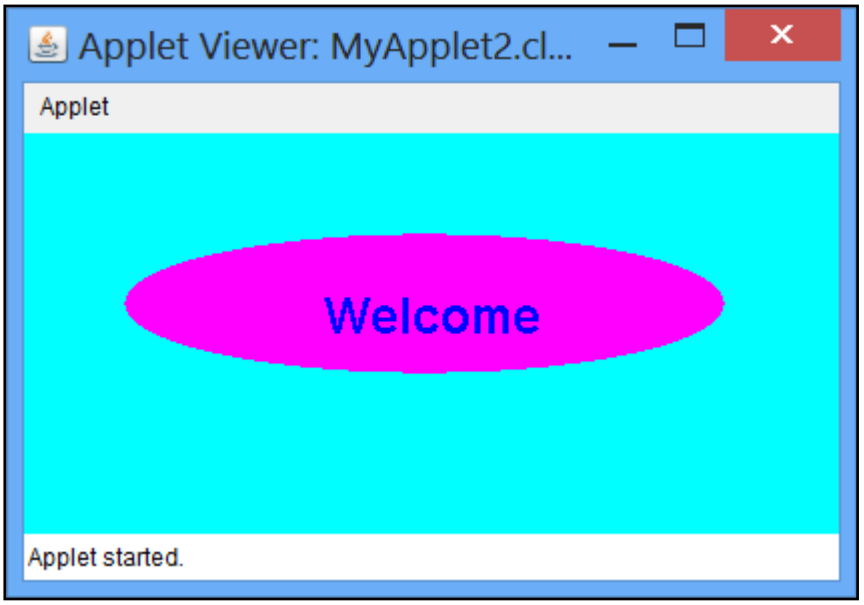
8. Program to illustrate applets

```
import java.applet.*;
import java.awt.*;
public class AppletExample extends Applet{
   public void paint(Graphics g){
      int i;
      for(i=1;i<=160;i+=5){
         g.setColor(new Color(250-i,i,i));
         g.drawRect(i, i, 400-i*2, 400-i*2);
      }
      g.setColor(Color.blue);
      g.drawString("Welcome",170,200);
   }
}
```



```
import java.applet.*;

import java.awt.*;
public class MyApplet2 extends Applet{
    public void paint(Graphics g){
      Font f;
      g.setColor(Color.cyan);
      g.fillRect(0, 0, 500, 200);
      g.setColor(Color.MAGENTA);
      g.fillOval(50, 50, 300, 100);
      g.setColor(Color.blue);
      f=new Font("Arial",Font.BOLD,25);
      g.setFont(f);
      g.drawString("Welcome",150,100);
   }
}
```



9. Write a java program to display message dialog using Swing Application

```
import java.awt.event.*;
import javax.swing.*;
public class SwingExample extends JFrame implements ActionListener
{
   JFrame f;
   JButton b;
   SwingExample(){
      f=new JFrame();
      b=new JButton("click");
      f.setLayout(null);
      b.setBounds(130,100,100, 40);
      f.add(b);
      b.addActionListener(this);
      f.setSize(400,500);
      f.setVisible(true);
   }
   public void actionPerformed(ActionEvent e) {
      JOptionPane.showMessageDialog(f,"Welcome to our Department");
   }
public static void main(String[] args) {
   new SwingExample();
}
}
```

Output: