

Practical No:-1

```
import java.util.Scanner;

class FibonacciSeriesExample
{
    public static void main(String[] args)
    {
        Scanner sc =new Scanner(System.in);
        System.out.print("Enter Number=");
        int count=sc.nextInt();
        int n1=0;
        int n2=1;
        System.out.println(n1);
        System.out.println(n2);
        for(int i=2;i<count;i++)
        {
            int temp=n1;
            n1 = n2;
            n2=temp +n2;
            System.out.println(n2);
        }
    }
}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56257:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
FibonacciSeriesExample
```

Enter Number=6

0

1

1

2

3

5

Process finished with exit code

Practical No:-2

```
import java.util.Scanner;

class factioal

{
    public static void main(String[] args)
    {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter number");
        int n = sc.nextInt();
        int fact=1;
        for(int i=1; i<n;i++)
        {
            fact=fact * i;
        }
        System.out.println(fact);
    }
}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56343:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
factioal
```

Enter number

9

40320

Process finished with exit code 0

Practical No:-3

```
public class Command
{
    public static void main(String[] args)
    {
        System.out.println("Below are arguments pass to program");
        for(String a:args)
        {
            System.out.println(a);
        }
    }
}
```

OUTPUT:-

Microsoft Windows [Version 10.0.22621.1702]

(c) Microsoft Corporation. All rights reserved.

C:\Users\sejal\Desktop\seju>javac Command.java

C:\Users\sejal\Desktop\seju>java Command

Below are arguments pass to program

C:\Users\sejal\Desktop\seju>

Practical 4 :

```
import java.util.Scanner;

public class StudentArrayExample
{
    public static class Student
    {
        public String name;
        public String dob;
        public int rollno;
    }

    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter number of Student=");
        int n=sc.nextInt();
        Student[] studentsArr =new Student[n];

        for(int i=0; i<n; i++)
        {
            System.out.println("*****"+(i+1)+"*****");
            Student s= new Student();
            System.out.print("Enter Student Roll Number=");
            s.rollno=sc.nextInt();
            System.out.print("Enter Student name=");
            s.name=sc.next();
            System.out.print("Enter Student DOB=");
            s.dob=sc.next();

            studentsArr[i]=s;
        }
        System.out.println("\n*****Show all Students*****");
```

```
for(Student s:studentsArr)
{
    System.out.println("Roll Number =" +s.rollno);
    System.out.println("Student Name =" +s.name);
    System.out.println("Student DOB =" +s.dob);
    System.out.println("");
}
}
}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56932:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
StudentArrayExample
```

Enter number of Student=1

****1****

Enter Student Roll Number=68

Enter Student name=Sejal Patil

Enter Student DOB=

*****Show all Students*****

Roll Number =68

Student Name =Sejal

Student DOB =Patil

Process finished with exit code 0

Practical No:-6

```
public class Contact
{
    public String name;
    public String mobile;
    public String email;
    public int age;
    public Contact()
    {
        this.name="";
        this.mobile="";
        this.email="";
        this.age=0;
    }
    public Contact(String name,String mobile,String email,int age)
    {
        this.name=name;
        this.mobile=mobile;
        this.email=email;
        this.age=age;
    }
    public Contact(Contact c)
    {
        this.name=c.name;
        this.mobile=c.mobile;
        this.email=c.email;
        this.age=c.age;
    }
}
```

```

public void show()
{
    System.out.println("\nName="+this.name);
    System.out.println("\nMobile="+this.mobile);
    System.out.println("\nEmail="+this.email);
    System.out.println("\nAge="+this.age);
}

public static void main(String[] args)
{
    Contact c = new Contact();
    c.show();

    Contact c1 = new Contact("Sejal", "7788980767", "sejal@gmail.com", 20);
    c1.show();

    Contact c2 = new Contact(c1);
    c2.show();
}
}

```

Output:-

```

C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=63671:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
Contact

```

Name=

Mobile=

Email=

Age=0

Name=Sejal

Mobile=Sejal

Email=sejal@gmail.com

Age=20

Name=Sejal

Mobile=Sejal

Email=sejal@gmail.com

Age=20

Process finished with exit code 0

Practical No:-7

```
public class StringExample {  
    public static void main(String[] args)  
    {  
        String name ="Test";  
        System.out.println("Length function="+name.length());  
        String msg ="ssbt college of engineering";  
        String[] strArray=msg.split("");  
        for(String s: strArray)  
        {  
            System.out.println(s);  
        }  
        String cityNames = "Jalgaon,Dhule,Pune,Kalyan";  
        System.out.println("\nBefore split="+cityNames);  
        String[] cityArray =cityNames.split("");  
        System.out.println("\nAfter split=");  
        for(String s:cityArray)  
        {  
            System.out.println(s);  
        }  
        String str1="Java programming";  
        String str2="Java programming";  
        String str3="Java programming";  
        System.out.println(str1.compareTo(str2));  
        System.out.println(str1.compareTo(str3));  
        System.out.println(str3.compareTo(str1));  
        System.out.println("\n3.replace()");  
        String msg1 = "Happy wednesday";  
        System.out.println("before replace="+msg1);  
        System.out.println("after replace="+msg1.replace( "wednesday","Thursday"));
```

```

        System.out.println("\n4.substring());

        String msg2 = msg1.substring(0,5);

        System.out.println(msg2);

        System.out.println("\n5.indexOf());

        System.out.println("IndexOf w in msg1="+msg1.indexOf("w"));

        System.out.println("\n6.contain() ");

        System.out.println("msg1 contain Happy="+ msg1.contains("Happy"));

        System.out.println("\n7.charAt());

        System.out.println("charAt index 4="+msg1.charAt(4));

        System.out.println("\n8.trim());

        String msg4 = "Good Morning everyone";

        System.out.println("trim all spaces="+msg4.trim());

    }

}

```

Output:-

C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.2\lib\idea_rt.jar=51911:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg StringExample

Length function=4

s

s

b

t

c

o

l

l

e

g

e

o

f

e

n

g

i

n

e

e

r

i

n

g

Before split=Jalgaon,Dhule,Pune,Kalyan

After split=

J

a

l

g

a

o

n

,

D

h

u

l

e

,

p

u

n

e

,

K

a

l

y

a

n

0

0

0

3.replace()

before replace=Happy wednesday

after replace=Happy Thursday

4.substring()

Happy

5.indexOf()

IndexOf w in msg1=6

6.contain()

msg1 contain Happy=true

7.charAt()

charAt index 4=y

8.trim()

trim all spaces=Good Morning everyone

Process finished with exit code 0

Practical No:-8

```
class autoboxing{
    int a=20;
    Integer i=Integer.valueOf(a);
    Integer j=a;
    void print(){
        System.out.println(a+""+i+""+j);
    }
}

class unboxing extends autoboxing{
    Integer a = new Integer (3);
    int i = a.intValue();
    int j = a;
    void display() {
        System.out.println(a + " " + i + " " + j);
    }
}

public class Wrapper {
    public static void main(String args[]) {
        unboxing obj = new unboxing();
        obj.display();
        obj.print();

    }
}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56654:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
```

Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcg\out\production\Ssbtcg
Wrapper

3 3 3

202020

Process finished with exit code 0

Practical No:-9

```
class Animal
{
    String name;

    public void eat() { System.out.println("I can eat");}
}

class Dog extends Animal
{
    public void display(){
        System.out.println("My name is " +name);
    }
}

class Inheritance
{
    public static void main(String[] args){
        Dog labrador = new Dog();
        labrador.name = "Ruho";
        labrador.display();
        labrador.eat();
    }
}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=57709:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
```

Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcg\out\production\Ssbtcg
Inheritance

My name is Ruho

I can eat

Process finished with exit code 0

Practical No:-10

```
package ExceptionHandling;

import java.util.Scanner;

public class ExceptionHandling {

    public static void main(String[] args)

    {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter Number For Division:");

        Integer n= sc.nextInt();

        Integer div=0;

        try{

            div=100/n;

        }catch (ArithmeticException e) {

            System.out.println("The Number " + n + " cannot divisible by 100");

            e.printStackTrace();

        }

        finally {

            System.out.println("division="+div);

        }

    }

}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56673:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
ExceptionHandling.ExceptionHandling
```

Enter Number For Division:

0

The Number 0 cannot divisible by 100

division=0

java.lang.ArithmeticException: / by zero

at ExceptionHandling.ExceptionHandling.main(ExceptionHandling.java:11)

Process finished with exit code 0

Practical No:-11

```
import javax.swing.*;

import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;


public class StudentRegistrationForm extends JFrame {

    // Labels

    private JLabel nameLabel = new JLabel("Name:");

    private JLabel ageLabel = new JLabel("Age:");

    private JLabel genderLabel = new JLabel("Gender:");

    private JLabel courseLabel = new JLabel("Course:");


    // Text Fields

    private JTextField nameField = new JTextField(20);

    private JTextField ageField = new JTextField(5);


    // Radio Buttons

    private JRadioButton maleRadioButton = new JRadioButton("Male");

    private JRadioButton femaleRadioButton = new JRadioButton("Female");

    private ButtonGroup genderGroup = new ButtonGroup();


    // Combo Box

    private String[] courses = {"Mathematics", "Physics", "Chemistry", "Biology"};

    private JComboBox<String> courseComboBox = new JComboBox<>(courses);


    // Button

    private JButton registerButton = new JButton("Register");


    public StudentRegistrationForm() {
```

```

setTitle("Student Registration Form");

setSize(300, 200);

setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

setLocationRelativeTo(null);


JPanel panel = new JPanel(new GridLayout(5, 2));


panel.add(nameLabel);
panel.add(nameField);
panel.add(ageLabel);
panel.add(ageField);
panel.add(genderLabel);
genderGroup.add(maleRadioButton);
genderGroup.add(femaleRadioButton);
JPanel genderPanel = new JPanel();
genderPanel.add(maleRadioButton);
genderPanel.add(femaleRadioButton);
panel.add(genderPanel);
panel.add(courseLabel);
panel.add(courseComboBox);
panel.add(new JLabel()); // Placeholder for spacing
panel.add(registerButton);


registerButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        String name = nameField.getText();
        int age = Integer.parseInt(ageField.getText());
        String gender = maleRadioButton.isSelected() ? "Male" : "Female";
        String course = (String) courseComboBox.getSelectedItem();


        // Perform registration process (for now, let's just print the details)
    }
});

```

```

        System.out.println("Name: " + name);

        System.out.println("Age: " + age);

        System.out.println("Gender: " + gender);

        System.out.println("Course: " + course);

    }

});

add(panel);

setVisible(true);

}

public static void main(String[] args) {

    SwingUtilities.invokeLater(new Runnable() {

        public void run() {

            new StudentRegistrationForm();

        }

    });

}

}

```

OUTPUT:-

C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.2\lib\idea_rt.jar=56705:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg StudentRegistrationForm

Name: Sejal Patil

Age: 20

Gender: Female

Course: Mathematics

Process finished with exit code 0

Student Registratio... — □ ×

Name: Sejal Patil

Age: 20

Gender: ☐ Male ☒ Female

Course: Mathematics ▼

Register

Practical No:-12

```
package graphical.ui.apps;

import javax.swing.*;

import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.awt.event.MouseAdapter;

import java.awt.event.MouseEvent;

import java.awt.event.KeyAdapter;

import java.awt.event.KeyEvent;

public class DifferentEventDemonstration extends JFrame{

    private JButton cliclButton;

    private JLabel mouseLabel;

    private JTextField keyTextField;

    public DifferentEventDemonstration(){

        setTitle("Event Handling demo by Seju");

        setSize(400,200);

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        setLayout(new FlowLayout());

        cliclButton = new JButton("Click Me");

        cliclButton.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                JOptionPane.showMessageDialog(DifferentEventDemonstration.this, "Button Clicked!");

            }

        });

        mouseLabel = new JLabel("Move the mouse over this label");

        mouseLabel.addMouseListener(new MouseAdapter() {

            @Override
```

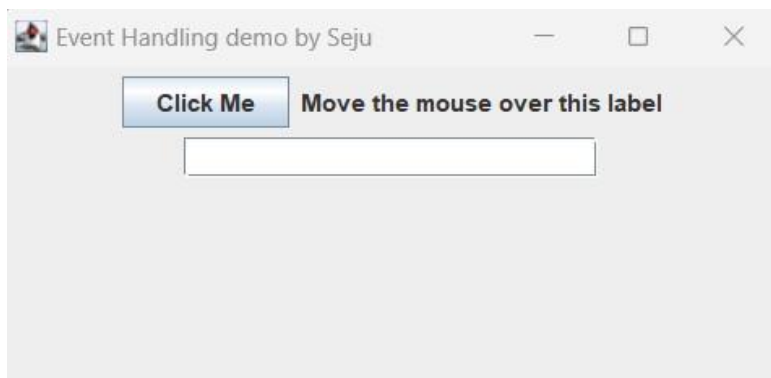
```

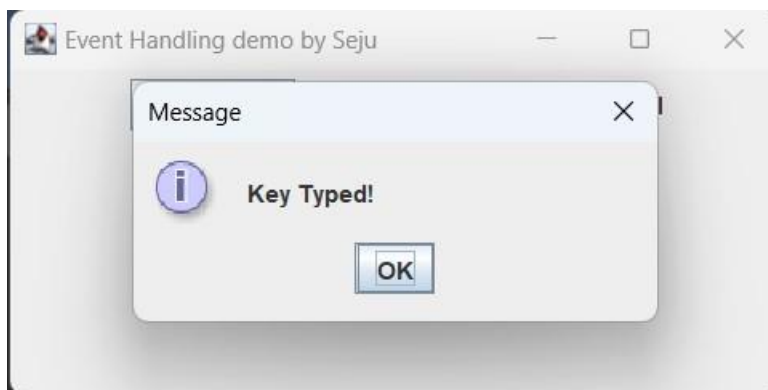
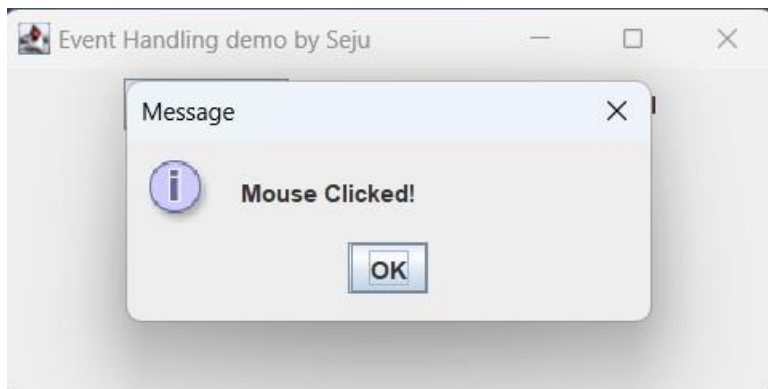
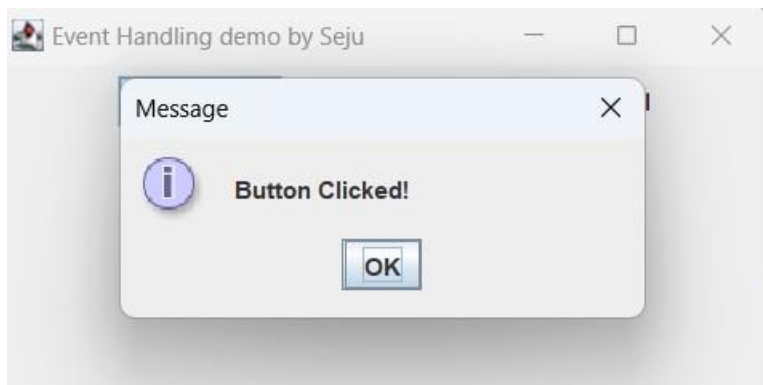
        public void mouseClicked(MouseEvent e) {
            super.mouseClicked(e);JOptionPane.showMessageDialog(DifferentEventDemonstration.this,
"Mouse Clicked!");
        }
    };
    keyTextField = new JTextField(20);
    keyTextField.addKeyListener(new KeyAdapter() {
        @Override
        public void keyTyped(KeyEvent e) {
            char typedChar = e.getKeyChar();
            JOptionPane.showMessageDialog(DifferentEventDemonstration.this, "Key Typed!");
        }
    });
    add(clickButton);
    add(mouseLabel);
    add(keyTextField);
    setVisible(true);
}

public static void main(String[] args) {
    SwingUtilities.invokeLater(() -> new DifferentEventDemonstration());
}
}

```

OUTPUT:-





Practical No:-13

```
package command.line.apps;

import java.io.BufferedWriter;
import java.io.FileWriter;
import java.io.IOException;
import java.util.Scanner;

public class TextStreamObject {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter text to write to the file: ");

        String userInput = scanner.nextLine();

        String filePath = "output.txt";

        try (BufferedWriter writer = new BufferedWriter(new FileWriter(filePath))){

            writer.write(userInput);

            System.out.println("Text has been written to the file successfully.");

        } catch (IOException e) {

            System.err.println("An error occurred while writing to the file: " + e.getMessage());

        } finally {

            scanner.close();

        }

    }

}
```

OUTPUT:-

```
C:\Users\sejal\.jdk\openjdk-21.0.1\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\lib\idea_rt.jar=56825:C:\Program Files\JetBrains\IntelliJ IDEA
Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -
Dsun.stderr.encoding=UTF-8 -classpath C:\Users\sejal\IdeaProjects\Ssbtcglg\out\production\Ssbtcglg
command.line.apps.TextStreamObject
```

Enter text to write to the file: I am Sejal

Text has been written to the file successfully.

Process finished with exit code 0

