

**24. Program to draw Circle, Rectangle, Line in Applet.****Code :**

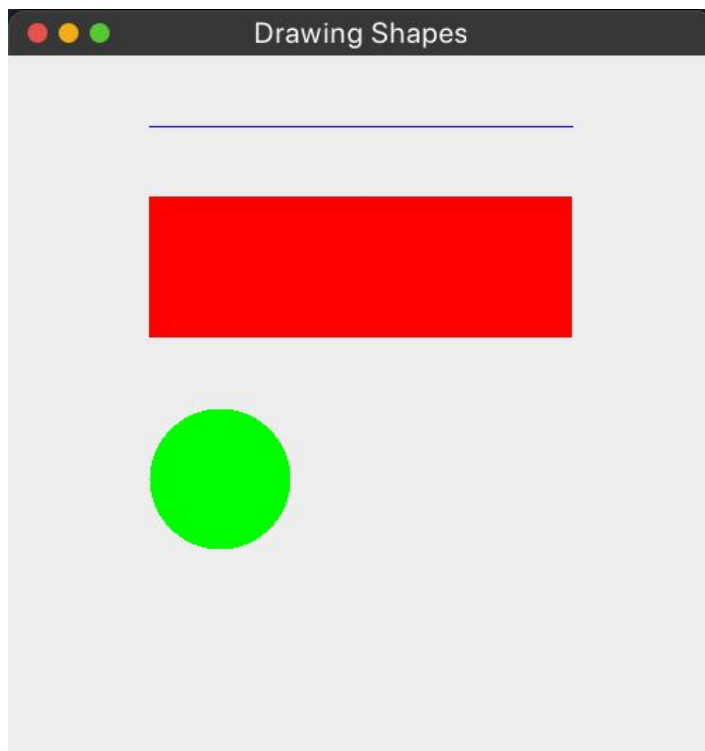
```
import java.awt.Color;
import java.awt.Graphics;
import javax.swing.JApplet;

public class shapes extends JApplet {
    @Override
    public void paint(Graphics g) {
        setSize(500, 500);

        g.setColor(Color.BLUE);
        g.drawLine(100, 50, 400, 50);

        g.setColor(Color.RED);
        g.fillRect(100, 100, 300, 100);

        g.setColor(Color.GREEN);
        g.fillOval(100, 250, 100, 100);
    }
}
```

**Output :**

**25. Implement a simple calculator using AWT components.****Code :**

```
import java.awt.*;
import java.awt.event.*;

public class Calculator implements ActionListener {
    Frame f = new Frame();
    Label l1 = new Label("First Number");
    Label l2 = new Label("Second Number");
    Label l3 = new Label("Result");
    TextField t1 = new TextField();
    TextField t2 = new TextField();
    TextField t3 = new TextField();
    Button b1 = new Button("Add");
    Button b2 = new Button("Sub");
    Button b3 = new Button("Mul");
    Button b4 = new Button("Div");
    Button b5 = new Button("Cancel");

    Calculator() {
        l1.setBounds(50, 100, 100, 20);
        l2.setBounds(50, 140, 100, 20);
        l3.setBounds(50, 180, 100, 20);
        t1.setBounds(200, 100, 100, 20);
        t2.setBounds(200, 140, 100, 20);
        t3.setBounds(200, 180, 100, 20);
        b1.setBounds(50, 250, 50, 20);
        b2.setBounds(110, 250, 50, 20);
        b3.setBounds(170, 250, 50, 20);
        b4.setBounds(230, 250, 50, 20);
        b5.setBounds(290, 250, 50, 20);
        f.add(l1);
        f.add(l2);
        f.add(l3);
        f.add(t1);
        f.add(t2);
        f.add(t3);
        f.add(b1);
        f.add(b2);
        f.add(b3);
        f.add(b4);
        f.add(b5);
    }
}
```

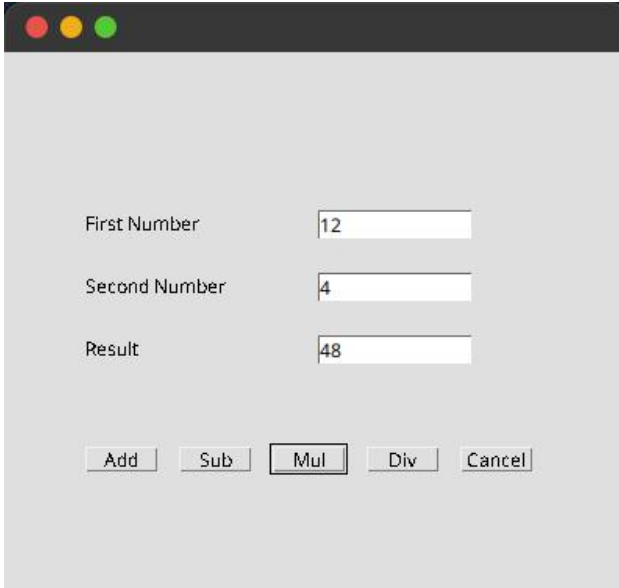
```
b1.addActionListener(this);
b2.addActionListener(this);
b3.addActionListener(this);
b4.addActionListener(this);
b5.addActionListener(this);

f.setLayout(null);
f.setVisible(true);
f.setSize(400, 350);
}

public void actionPerformed(ActionEvent e) {
    int n1 = Integer.parseInt(t1.getText());
    int n2 = Integer.parseInt(t2.getText());

    if (e.getSource() == b1) {
        t3.setText(String.valueOf(n1 + n2));
    }
    if (e.getSource() == b2) {
        t3.setText(String.valueOf(n1 - n2));
    }
    if (e.getSource() == b3) {
        t3.setText(String.valueOf(n1 * n2));
    }
    if (e.getSource() == b4) {
        t3.setText(String.valueOf(n1 / n2));
    }
    if (e.getSource() == b5) {
        System.exit(0);
    }
}

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

**Output :**

First Number 12

Second Number 4

Result 48

Add Sub Mul Div Cancel

**26. Program to list the sub directories and files in each directory and search for a file name.****Code :**

```
import java.io.File;
import java.util.Scanner;

public class DirectoryExplorer {

    public static void main(String[] args) {
        System.out.println("Name : Sreyas Satheesh\nRoll.no : 53\nTitle : List
the sub directories and files in each directory & search for a file name\nDate :
08/05/2024\n");

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter directory path: ");
        String directoryPath = scanner.nextLine();
        System.out.println("");

        exploreDirectory(directoryPath);

        scanner.close();
    }

    private static void exploreDirectory(String directoryPath) {
        File directory = new File(directoryPath);

        if (!directory.isDirectory()) {
            System.out.println(directoryPath + " is not a directory");
            return;
        }

        exploreDirectory(directory, "");

        searchFile(directory);
    }

    private static void exploreDirectory(File directory, String indent) {
        File[] files = directory.listFiles();

        if (files != null) {
            for (File file : files) {
```

```
        System.out.println(indent + (file.isDirectory() ? "[" + file.getName() + "]" :
file.getName()));

        if (file.isDirectory()) {
            exploreDirectory(file, indent + " ");
        }
    }
}

private static void searchFile(File directory) {
    Scanner scanner = new Scanner(System.in);

    System.out.print("\nEnter the filename to search: ");
    String filename = scanner.nextLine();

    boolean found = searchFileInDirectory(directory, filename);

    if (!found) {
        System.out.println("File not found in the directory or its subdirectories.");
    }

    scanner.close();
}

private static boolean searchFileInDirectory(File directory, String filename) {
    File[] files = directory.listFiles();

    if (files != null) {
        for (File file : files) {
            if (file.getName().equals(filename)) {
                System.out.println("** Found file: " + file.getAbsolutePath() + " **");
                return true;
            }

            if (file.isDirectory()) {
                boolean foundInSubDir = searchFileInDirectory(file, filename);
                if (foundInSubDir) {
                    return true;
                }
            }
        }
    }
}
```

```
        return false;
    }
}
```

### Output :

```
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> javac DirectoryExplorer.java
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> java DirectoryExplorer
Name : Sreyas Satheesh
Roll.no : 53
Title : List the sub directories and files in each directory & search for a file name
Date : 08/05/2024

Enter directory path: /media/common/MCA/Lab/S2/OOP/test

test_1.java
test_2.java
test_3.java
[unit]
    unit_test_1.java
    unit_test_2.java
    unit_test_3.java

Enter the filename to search: test_1.java
** Found file: /media/common/MCA/Lab/S2/OOP/test/test_1.java **
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6>
```

**27. Write a program to write to a file, then read from the file and display the contents on the console.**

**Code :**

```
import java.io.FileWriter;
import java.io.FileReader;
import java.io.BufferedReader;
import java.io.IOException;
import java.util.Scanner;

public class FileReadWrite {

    public static void main(String[] args) {
        System.out.println("Name : Sreyas Satheesh\nRoll.no : 53\nTitle :
Write to a file, then read from the file & display the contents on the console\nDate :
08/05/2024\n");

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the file name: ");
        String filename = scanner.nextLine();

        System.out.println("\nEnter the content to write to the file:");
        String contentToWrite = scanner.nextLine();

        writeFile(filename, contentToWrite);

        readFileAndDisplay(filename);

        scanner.close();
    }

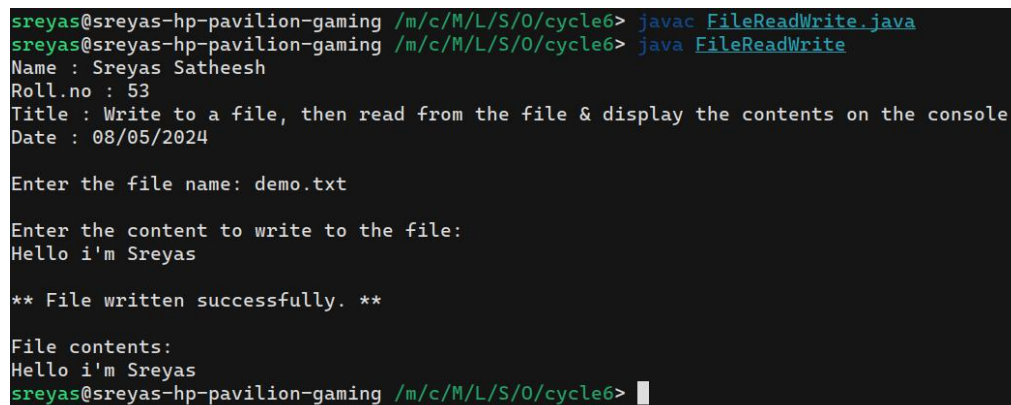
    private static void writeFile(String filename, String content) {
        try (FileWriter fileWriter = new FileWriter(filename)) {
            fileWriter.write(content);
            System.out.println("\n** File written successfully. **");
        } catch (IOException e) {
            System.err.println("\n** An error occurred while writing to the file: " +
e.getMessage() + " **");
        }
    }

    private static void readFileAndDisplay(String filename) {
```



```
try (FileReader fileReader = new FileReader(filename);
    BufferedReader bufferedReader = new BufferedReader(fileReader)) {

    String line;
    System.out.println("\nFile contents:");
    while ((line = bufferedReader.readLine()) != null) {
        System.out.println(line);
    }
} catch (IOException e) {
    System.err.println("\n** An error occurred while reading the file: " +
e.getMessage() + " **");
}
}
```

**Output :**

```
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> javac FileReadWrite.java
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> java FileReadWrite
Name : Sreyas Satheesh
Roll.no : 53
Title : Write to a file, then read from the file & display the contents on the console
Date : 08/05/2024

Enter the file name: demo.txt

Enter the content to write to the file:
Hello i'm Sreyas

** File written successfully. **

File contents:
Hello i'm Sreyas
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> █
```

**28. Write a program to copy one file to another.****Code :**

```
import java.io.FileReader;
import java.io.FileWriter;
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.IOException;
import java.util.Scanner;

public class FileCopy {

    public static void main(String[] args) {
        System.out.println(
            "Name : Sreyas Satheesh\nRoll.no : 53\nTitle : Program to copy one file to
another\nDate : 08/05/2024\n");

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the source file name: ");
        String sourceFileName = scanner.nextLine();

        System.out.print("Enter the destination file name: ");
        String destinationFileName = scanner.nextLine();

        copyFile(sourceFileName, destinationFileName);

        scanner.close();
    }

    private static void copyFile(String sourceFileName, String destinationFileName) {
        try (FileReader fileReader = new FileReader(sourceFileName);
            BufferedReader bufferedReader = new BufferedReader(fileReader);
            FileWriter fileWriter = new FileWriter(destinationFileName);
            BufferedWriter bufferedWriter = new BufferedWriter(fileWriter)) {

            String line;
            while ((line = bufferedReader.readLine()) != null) {
                bufferedWriter.write(line);
                bufferedWriter.newLine();
            }

            System.out.println("\n** File copied successfully **");
        }
    }
}
```

```
    } catch (IOException e) {  
        System.err.println("\n** An error occurred while copying the file: " +  
e.getMessage() + " **");  
    }  
}  
}
```

### Output :

```
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> javac FileCopy.java  
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> java FileCopy  
Name : Sreyas Satheesh  
Roll.no : 53  
Title : Program to copy one file to another  
Date : 08/05/2024  
  
Enter the source file name: demo.txt  
Enter the destination file name: copy.txt  
  
** File copied successfully **  
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> tree  
.  
├── copy.txt  
├── demo.txt  
├── DirectoryExplorer.class  
├── DirectoryExplorer.java  
├── FileCopy.class  
├── FileCopy.java  
├── FileReadWrite.class  
└── FileReadWrite.java  
  
1 directory, 8 files  
sreyas@sreyas-hp-pavilion-gaming /m/c/M/L/S/O/cycle6> █
```