



20CYS404

Android Application Development

End Sem Lab Exam

Bragatheeshwaran S

CH.EN.U4CYS21062

AIM:

To develop a Drawing application on android studio with required elements.

“activity_main.xml”

```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <!-- College Logo -->
    <!-- College Logo -->
    <ImageView
        android:id="@+id/collegeLogo"
        android:layout_width="150dp"
        android:layout_height="150dp"
        android:layout_gravity="center"
        android:src="@drawable/amritalogo"
        android:contentDescription="College Logo"
        android:adjustViewBounds="true"
        android:layout_marginTop="2dp"/>

    <!-- Name TextView -->
    <TextView
        android:id="@+id/nameTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Bragatheeshwaran S"
        android:textSize="14sp"
        android:layout_marginTop="4dp"
        android:layout_gravity="center" />
```

<!-- Roll Number TextView -->

<TextView

```
    android:id="@+id/rollNumberTextView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Roll: Ch.en.u4cys21009"
    android:textSize="14sp"
    android:layout_marginTop="4dp"
    android:layout_gravity="center" />
```

<!-- Drawing view -->

<com.example.freehanddrawingapp.PaintView

```
    android:id="@+id/paintView"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"/>
```

<!-- Color selection panel -->

<GridLayout

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:rowCount="2"
    android:columnCount="5"
    android:layout_marginTop="10dp"
    android:layout_marginBottom="10dp"
    android:padding="5dp">
```

<!-- Color Buttons -->

<Button

```
    android:id="@+id/colorRed"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_red_light"/>
```

<Button

```
    android:id="@+id/colorGreen"
```

```
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_green_light"/>
```

```
<Button
    android:id="@+id/colorBlue"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_blue_light"/>
```

```
<Button
    android:id="@+id/colorYellow"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_orange_light"/>
```

```
<Button
    android:id="@+id/colorPurple"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="#8E24AA"/>
```

```
<Button
    android:id="@+id/colorOrange"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_orange_dark"/>
```

```
<Button
    android:id="@+id/colorCyan"
    android:layout_width="0dp"
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
    android:background="@android:color/holo_blue_bright"/>
```

```
<Button
    android:id="@+id/colorBlack"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/black"/>
```

```
<Button
    android:id="@+id/colorWhite"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/white"/>
```

```
<Button
    android:id="@+id/colorGrey"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/darker_gray"/>
```

```
</GridLayout>
```

```
<!-- Tool buttons like pen, eraser, and clear -->
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_gravity="bottom"
    android:padding="10dp">
```

```
<Button
    android:id="@+id/buttonPen"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
```

```

        android:layout_weight="1"
        android:text="Pen"/>

<Button
    android:id="@+id/buttonEraser"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Eraser"/>

<Button
    android:id="@+id/buttonClear"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Clear"/>
</LinearLayout>

</LinearLayout>

```

“MainActivity.java”

```

package com.example.freehanddrawingapp;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private PaintView paintView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

paintView = findViewById(R.id.paintView);

// Set up color buttons
setupColorButtons();

// Set up tool buttons
setupToolButtons();
}

private void setupColorButtons() {
    Button colorRed = findViewById(R.id.colorRed);
    Button colorGreen = findViewById(R.id.colorGreen);
    Button colorBlue = findViewById(R.id.colorBlue);
    Button colorYellow = findViewById(R.id.colorYellow);
    Button colorPurple = findViewById(R.id.colorPurple);
    Button colorOrange = findViewById(R.id.colorOrange);
    Button colorCyan = findViewById(R.id.colorCyan);
    Button colorBlack = findViewById(R.id.colorBlack);
    Button colorWhite = findViewById(R.id.colorWhite);
    Button colorGrey = findViewById(R.id.colorGrey);

    // Setting click listeners for all color buttons
    colorRed.setOnClickListener(v -> paintView.setColor(Color.RED));
    colorGreen.setOnClickListener(v -> paintView.setColor(Color.GREEN));
    colorBlue.setOnClickListener(v -> paintView.setColor(Color.BLUE));
    colorYellow.setOnClickListener(v -> paintView.setColor(Color.YELLOW));
    colorPurple.setOnClickListener(v ->
paintView.setColor(Color.parseColor("#8E24AA"))); // Purple color
    colorOrange.setOnClickListener(v ->
paintView.setColor(Color.parseColor("#FFA500"))); // Orange color
    colorCyan.setOnClickListener(v -> paintView.setColor(Color.CYAN));
    colorBlack.setOnClickListener(v -> paintView.setColor(Color.BLACK));
    colorWhite.setOnClickListener(v -> paintView.setColor(Color.WHITE));
    colorGrey.setOnClickListener(v -> paintView.setColor(Color.GRAY));

```

```

    }

    private void setupToolButtons() {
        Button buttonPen = findViewById(R.id.buttonPen);
        Button buttonEraser = findViewById(R.id.buttonEraser);
        Button buttonClear = findViewById(R.id.buttonClear);

        buttonPen.setOnClickListener(v -> paintView.setPenMode());
        buttonEraser.setOnClickListener(v -> paintView.setEraserMode());
        buttonClear.setOnClickListener(v -> paintView.clearCanvas());
    }
}

```

“color_palette.xml”

```

<?xml version="1.0" encoding="utf-8"?>
<GridLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:rowCount="2"
    android:columnCount="5"
    android:layout_marginTop="10dp"
    android:layout_marginBottom="10dp"
    android:padding="5dp">

    <!-- Color Buttons with Different IDs -->
    <Button
        android:id="@+id/colorRed"
        android:layout_width="0dp"
        android:layout_height="50dp"
        android:layout_columnWeight="1"

```



```
android:background="@android:color/holo_red_light" />
```

```
<Button
```

```
    android:id="@+id/colorGreen"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
```

```
    android:background="@android:color/holo_green_light" />
```

```
<Button
```

```
    android:id="@+id/colorBlue"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
```

```
    android:background="@android:color/holo_blue_light" />
```

```
<Button
```

```
    android:id="@+id/colorYellow"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
```

```
    android:background="@android:color/holo_orange_light" />
```

```
<Button
```

```
    android:id="@+id/colorPurple"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
```

```
    android:background="#8E24AA" />
```

```
<Button
```

```
    android:id="@+id/colorOrange"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="50dp"
```

```
    android:layout_columnWeight="1"
```

```
    android:background="@android:color/holo_orange_dark" />
```

```
<Button
    android:id="@+id/colorCyan"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/holo_blue_bright" />
```

```
<Button
    android:id="@+id/colorBlack"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/black" />
```

```
<Button
    android:id="@+id/colorWhite"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/white" />
```

```
<Button
    android:id="@+id/colorGrey"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:layout_columnWeight="1"
    android:background="@android:color/darker_gray" />
```

```
</GridLayout>
```

Output:

