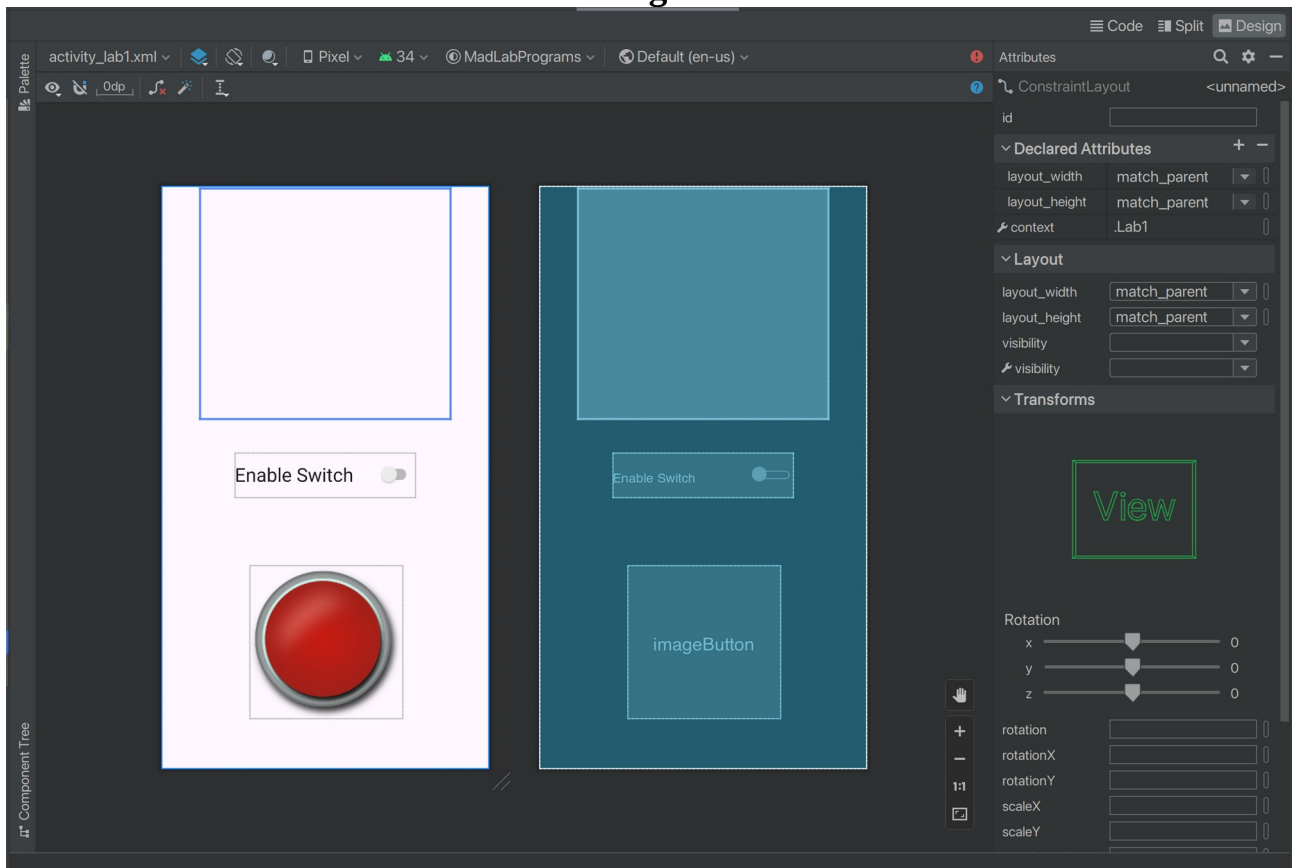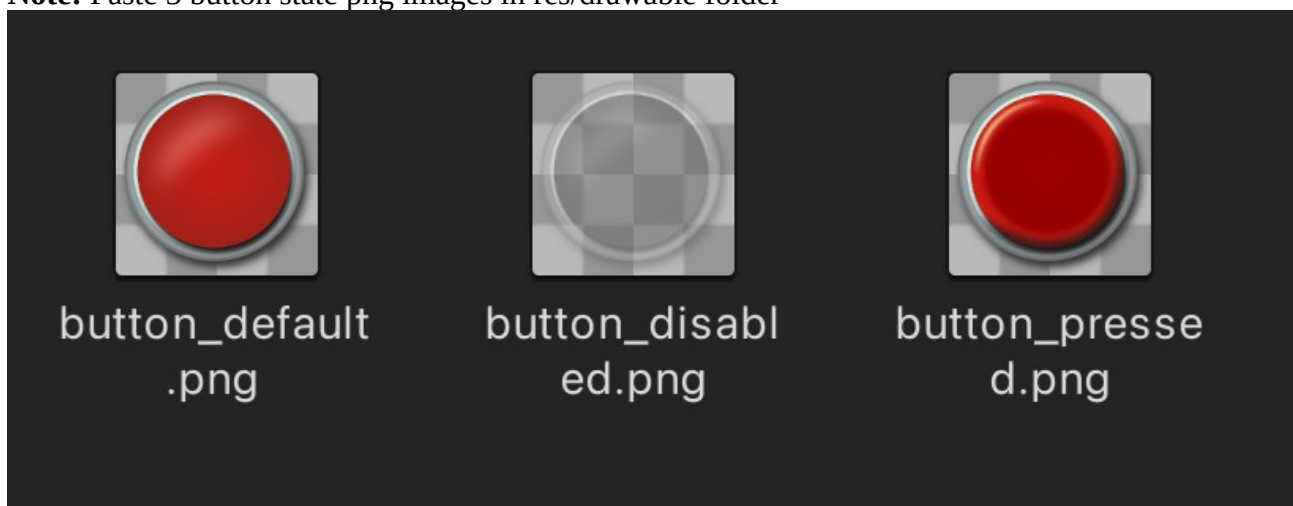## Program 1
Devise a Mobile App to showcase graphics on button states and add a widget at run time

Design

Note: Paste 3 button state png images in res/drawable folder

Xml Code

res/drawable/custom_button.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:state_enabled="false"
        android:drawable="@drawable/button_disabled"/>

    <item android:state_pressed="true"
        android:drawable="@drawable/button_pressed"/>

    <item android:drawable="@drawable/button_default"/>
</selector>
```

Activity_main.xml

```xml
 <Switch
        android:id="@+id/switch1"
        android:layout_width="227dp"
        android:layout_height="56dp"
        android:layout_marginStart="92dp"
        android:layout_marginTop="43dp"
        android:layout_marginEnd="92dp"
        android:backgroundTint="#00BCD4"
        android:hapticFeedbackEnabled="true"
        android:hint="Enable Switch"
        android:text="Enable Switch"
        android:textColorHighlight="#F44336"
        android:textSize="24sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/Layout" />

    <androidx.constraintlayout.widget.ConstraintLayout
        android:id="@+id/Layout"
        android:layout_width="314dp"
        android:layout_height="289dp"
        android:layout_marginStart="1dp"
        android:layout_marginTop="2dp"
        android:layout_marginEnd="1dp"
        android:layout_marginBottom="20dp"
        app:layout_constraintBottom_toTopOf="@+id/switch1"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.491"
        app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"></androidx.constraintlayout.widget.ConstraintLayout>

    <ImageButton
        android:id="@+id/imageButton"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="97dp"
        android:layout_marginTop="55dp"
        android:layout_marginEnd="97dp"
        android:layout_marginBottom="33dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/switch1"
        android:background="@drawable/custom_button" />
```

Java Code

MainActivity.java

```java
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_lab1);

        ImageButton button = findViewById(R.id.imageButton);
        Switch state = findViewById(R.id.switch1);
        ConstraintLayout layout = findViewById(R.id.Layout);

        CalendarView cal = new CalendarView(this);
        ConstraintLayout.LayoutParams params = new ConstraintLayout.LayoutParams(
                ViewGroup.LayoutParams.MATCH_PARENT,
                ConstraintLayout.LayoutParams.MATCH_PARENT
        );

        layout.addView(cal);

        button.setEnabled(false);
        state.setOnCheckedChangeListener((buttonView, isChecked) -> {
            if(isChecked){
                button.setEnabled(true);
                state.setText("Enabled");
            }
            else {
                button.setEnabled(false);
                state.setText("Disabled");
            }
        });

        button.setOnClickListener(v->{
            Toast.makeText(this, "Button is Clicked", Toast.LENGTH_SHORT).show();
        });
    }
}
```