

Experiment No. : 3	Android UI	Date: 7/4/22
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**AIM:** To design the User Interface of an Android Application

### Theory:

#### Changing Layout

Android offers several layouts. **Linear Layout** (Vertical or Horizontal), and **Relative Layout** (Grid). Simply right click on emulator and Select Change layout.

**Linear Layout:** Common for forms that display controls in a single row or column.

**Relative Layout:** Provides more flexibility in positioning controls

**Property Pane:** You can change properties of the object at run time or from the property pane. It is easier to use the Property Pane to change the object's property.

#### Adding Image

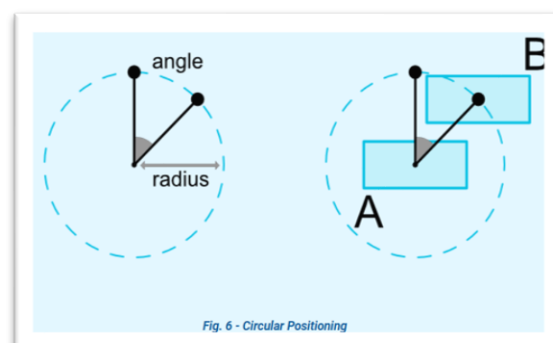
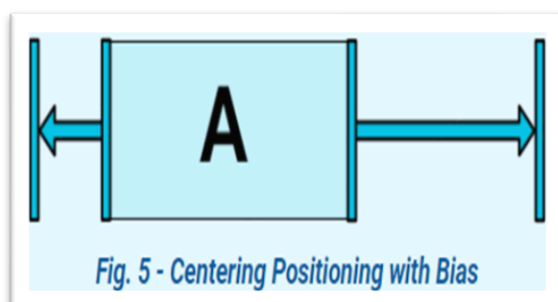
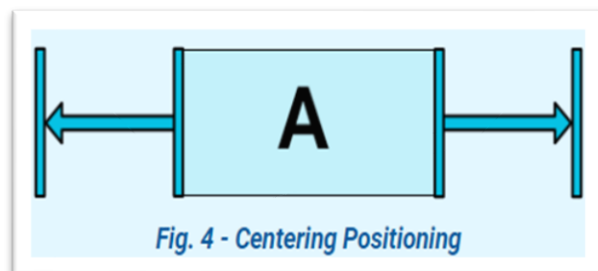
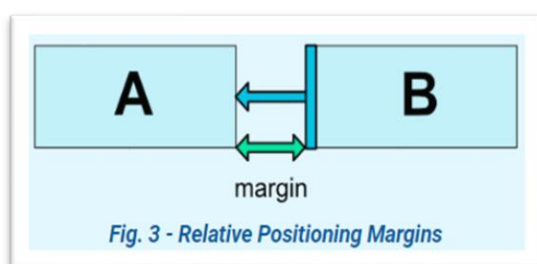
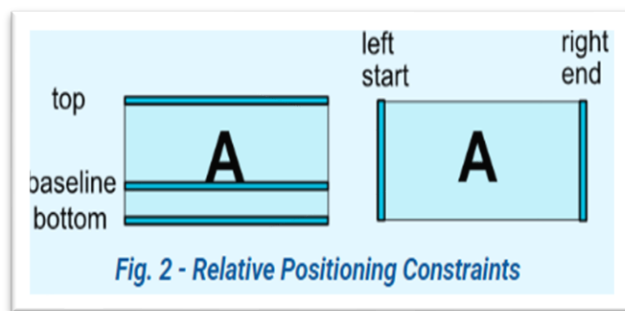
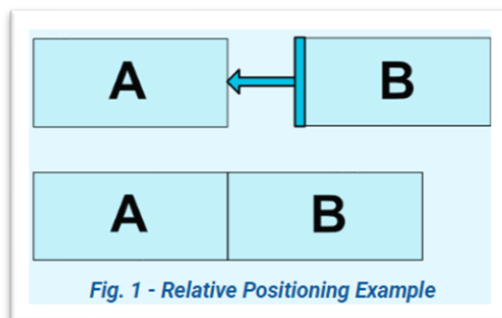
To add image in android studio, simply drag and drop images in the drawable folder. And these images can be used in the Android Studio using **ImageView**.

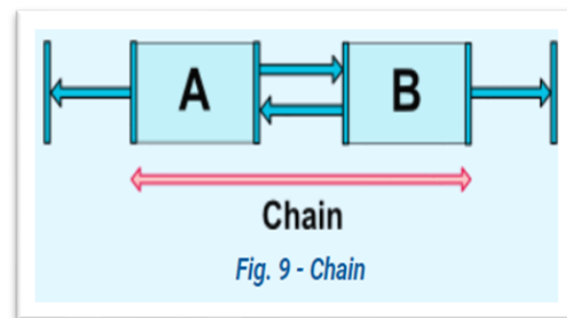
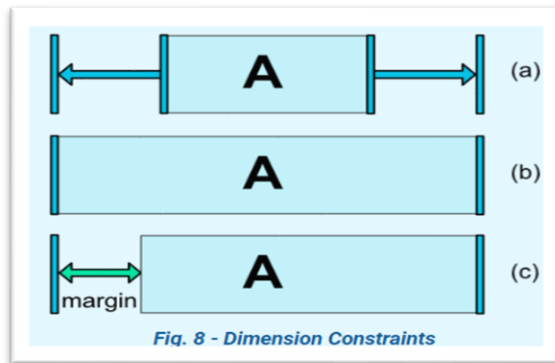
The image from drawable can be directly displayed in the app using **setImageResource()** method.

#### Setting Constraints

Constraints can be added by dragging the given borders in the design panel or by writing the constraint in the Layout XML file.

#### Types Of Constraints





### Adding Button

A button can be added by simply drag and drop method or by writing XML tag for buttons. Button size and colour can be specified as well as **onClick()** method can be created to define the action to be performed when the button is pressed.

### Adding TextView

A TextView can be added by simply drag and drop method or by writing XML tag for TextView. The desired text can be displayed using the **setText()** method.

### Adding EditText

An EditText be added by simply drag and drop method or by writing XML tag for EditText. The text typed inside the edit text can be accessed by using **getText()** method.

### Layout Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/rForm"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:rotation="0"
    android:rotationX="0"
    android:rotationY="0"
    android:scaleX="2"
    android:scaleY="3"
    android:text="Android UI"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
```



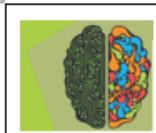
```
app:layout_constraintVertical_bias="0.035" />
```

```
<Button
    android:id="@+id/btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onClick"
    android:scaleX="1.5"
    android:scaleY="1.5"
    android:text="Submit"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.537"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/rForm"
    app:layout_constraintVertical_bias="0.489" />
```

```
<EditText
    android:id="@+id/uname"
    android:layout_width="220dp"
    android:layout_height="50dp"
    android:ems="10"
    android:hint="Enter Full Name"
    android:inputType="textPersonName"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.518"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.118" />
```

```
<EditText
    android:id="@+id/umail"
    android:layout_width="214dp"
    android:layout_height="41dp"
    android:ems="10"
    android:hint="Enter Email"
    android:inputType="textPersonName"
    android:textAlignment="center"
    app:layout_constraintBottom_toTopOf="@+id/unum"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/uname"
    app:layout_constraintVertical_bias="0.44" />
```

```
<EditText
    android:id="@+id/unum"
    android:layout_width="220dp"
    android:layout_height="50dp"
```



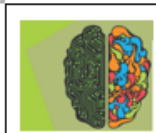
```
android:layout_marginBottom="48dp"
android:ems="10"
android:hint="Enter Mobile Number"
android:inputType="textPersonName"
android:textAlignment="center"
app:layout_constraintBottom_toTopOf="@+id/btn"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.518"
app:layout_constraintStart_toStartOf="parent" />
```

```
<TextView
    android:id="@+id/txtView"
    android:layout_width="273dp"
    android:layout_height="86dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btn"
    app:layout_constraintVertical_bias="0.029" />
```

```
<ImageView
    android:id="@+id/psplmg"
    android:layout_width="97dp"
    android:layout_height="102dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.171"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@+id/txtView"
    app:layout_constraintVertical_bias="0.926" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

### Layout Design:



### Main Java Code:

```
package com.ramanand.androidui;

import androidx.appcompat.app.AppCompatActivity;

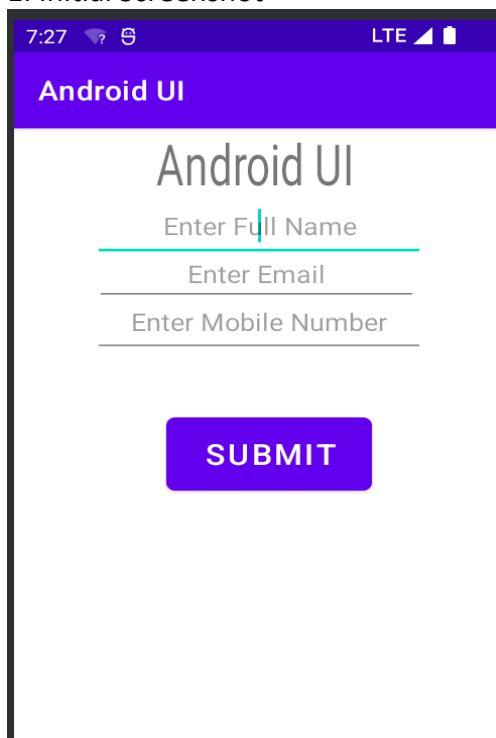
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

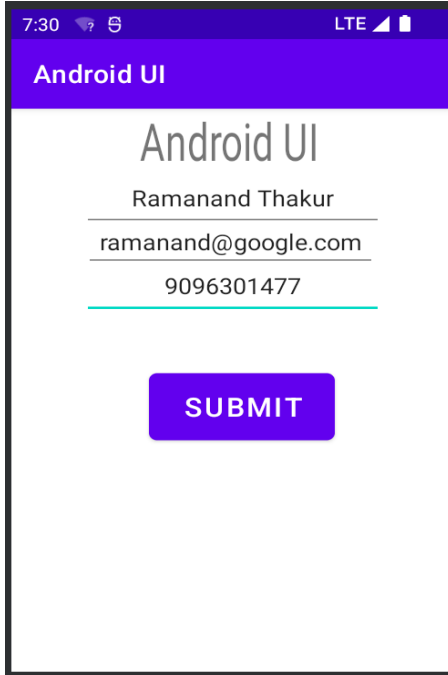
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void onClick(View v){
        EditText uName = findViewById(R.id.uname);
        EditText uNum = findViewById(R.id.unum);
        EditText uMail = findViewById(R.id.umail);
        TextView textView = findViewById(R.id.txtView);
        textView.setText("\nFull Name: "+uName.getText().toString()+"\n"+"Email: "+uMail.getText().toString()+"\n"+"Mobile Number: "+ uNum.getText().toString() );
        ImageView imgV = findViewById(R.id.pspImg);
        imgV.setImageResource(R.drawable.passportsize);
    }
}
```

### Output

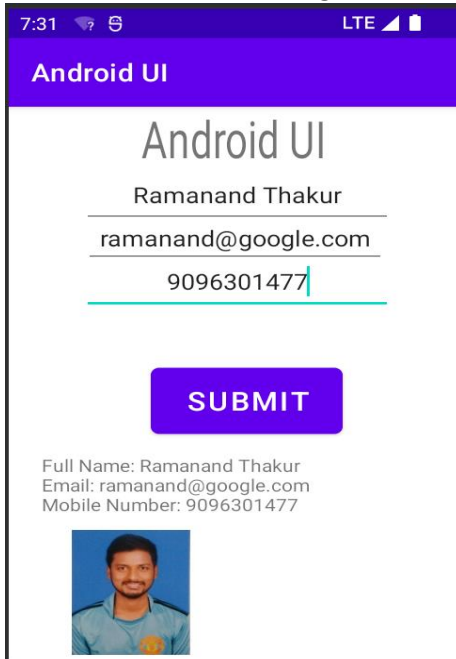
#### 1. Initial Screenshot



## 2. Screenshot After Filling the details



## 3. Screenshot After Clicking the SUBMIT Button



**Conclusion:** Various components of Android User Interface was successfully studied and an Android UI Application was successfully designed and tested.

Agnel Institute of Technology & Design Assagao, Goa. Department of ECE		
Programming	(2)	
Execution & Result	(3)	
Neatness	(2)	
Viva	(3)	
Total	(10)	
Faculty In-charge sign		