# CO<sub>1</sub>

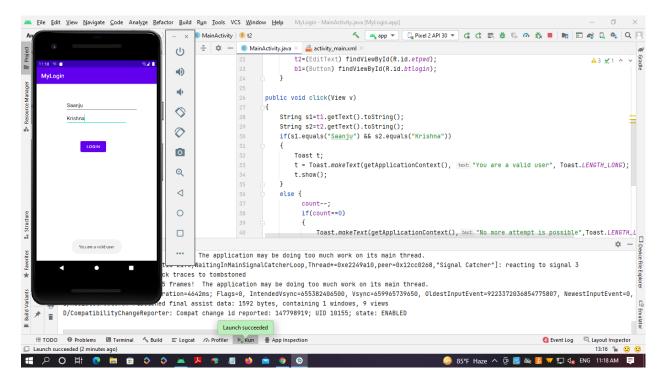
# CO1 - 1. Design a Login Form with username and password using RelativeLayout and toast valid credentials

#### **XML**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
  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">
   <EditText
       android:id="@+id/etuser"
       android:layout width="247dp"
       android:layout height="wrap content"
       android:layout marginTop="50dp"
       android:ems="10"
       android:hint="enter user name"
       android:inputType="textPersonName"
       android:text=""
       android:layout marginLeft="100dp"
       />
   <EditText
       android:id="@+id/etpwd"
       android:layout width="wrap_content"
       android:layout height="wrap content"
       android:ems="10"
       android:hint="Enter Password"
       android:inputType="textPersonName"
       android:text=""
       android:layout below="@id/etuser"
       android:layout marginLeft="100dp"
     />
   <Button
       android:id="@+id/btlogin"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:text="LOGIN"
       android:layout below="@id/etpwd"
       android:layout marginTop="50dp"
       android:layout marginLeft="150dp"
       android:onClick="click"
       />
</RelativeLayout>
```

```
package com.example.mylogin;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity
EditText t1,t2;
Button b1;
int count=4;
   @Override
   protected void onCreate(Bundle savedInstanceState)
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity main);
       t1=(EditText) findViewById(R.id.etuser);
       t2=(EditText) findViewById(R.id.etpwd);
       b1=(Button) findViewById(R.id.btlogin);
   }
public void click(View v)
   String s1=t1.getText().toString();
   String s2=t2.getText().toString();
   if(s1.equals("Saanju") && s2.equals("Krishna"))
       Toast t;
       t = Toast.makeText(getApplicationContext(), "You are a valid user",
Toast.LENGTH LONG);
       t.show();
   }
   else {
         count--;
         if(count==0)
             Toast.makeText(getApplicationContext(), "No more attempt is
possible", Toast.LENGTH LONG) .show();
             b1.setEnabled(false);
         }
         else
             Toast.makeText(getApplicationContext(),"Not a valid
user", Toast.LENGTH LONG) .show();
   }
```

#### **OUTPUT**



## **CO1 - 2.** Write a program that demonstrates Activity Lifecycle.

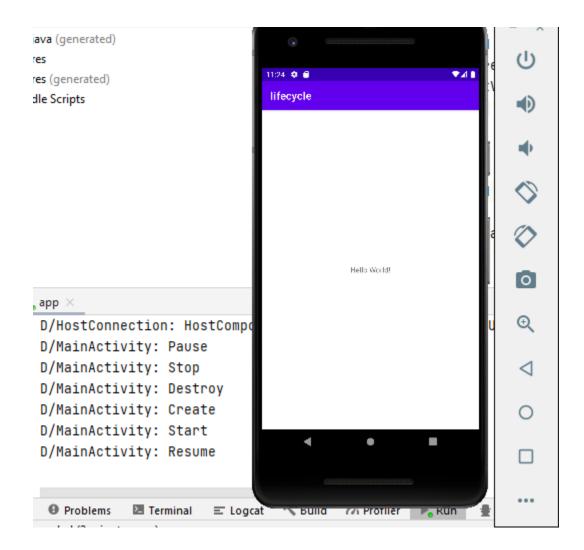
```
package com.example.lifecycle;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity main);
       Log.d("MainActivity", "Create");
   }
   @Override
   protected void onStart()
       super.onStart();
       Log.d("MainActivity", "Start");
   @Override
```

```
protected void onResume()
       super.onResume();
       Log.d("MainActivity", "Resume");
  @Override
  protected void onPause()
       super.onPause();
      Log.d("MainActivity", "Pause");
  @Override
  protected void onStop()
       super.onStop();
      Log.d("MainActivity", "Stop");
  @Override
  protected void onDestroy()
      super.onDestroy();
      Log.d("MainActivity", "Destroy");
  @Override
  protected void onRestart()
       super.onRestart();
      Log.d("MainActivity", "Restart");
   }
}
```

### **XML**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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:layout width="wrap content"
       android:layout height="wrap content"
       android:text="Hello World!"
       app:layout constraintBottom toBottomOf="parent"
       app:layout constraintLeft toLeftOf="parent"
       app:layout constraintRight toRightOf="parent"
       app:layout constraintTop toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

**OUTPUT** 



# CO1-3. Implementing basic arithmetic operations of a simple calculator

```
package com.example.mycalculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import com.example.mycalculator.R;
public class MainActivity extends AppCompatActivity
{ EditText e1,e2,e3;
  Button add, sub, mult, div;
  @Override
   public void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity main);
       e1=(EditText) findViewById(R.id.etn1);
       e2=(EditText) findViewById(R.id.etn2);
```

```
e3=(EditText) findViewById(R.id.etres);
       add=(Button) findViewById(R.id.btadd);
       sub=(Button) findViewById(R.id.btsub);
       mult=(Button) findViewById(R.id.btmult);
       div=(Button) findViewById(R.id.btdiv);
       add.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               float f1=Float.parseFloat(e1.getText().toString());
               float f2=Float.parseFloat((e2.getText().toString()));
               e3.setText(f1+f2+"");
           }
       });
       sub.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               float f1=Float.parseFloat(e1.getText().toString());
               float f2=Float.parseFloat((e2.getText().toString()));
               e3.setText(f1-f2+"");
           }
       });
       mult.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               float f1=Float.parseFloat(e1.getText().toString());
               float f2=Float.parseFloat((e2.getText().toString()));
               e3.setText(f1*f2+"");
       });
       div.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               float f1=Float.parseFloat(e1.getText().toString());
               float f2=Float.parseFloat((e2.getText().toString()));
               e3.setText(f1/f2+"");
       });
   }
}
```

## **XML**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:orientation="vertical"
    android:layout_gravity="center_horizontal"
    tools:context=".MainActivity">

<EditText
    android:layout_width="wrap_content"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"</pre>
```

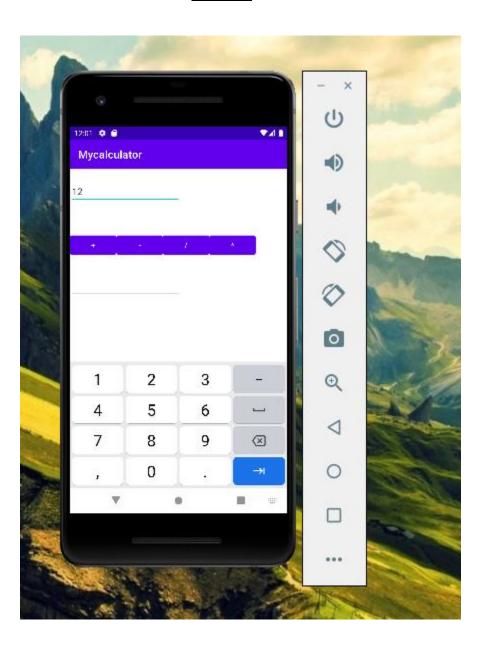
```
android:ems="10"
    android:inputType="number"
    android:layout_marginTop="20dp"
    android:text=""
    />
<EditText
   android:id="@+id/etn2"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:ems="10"
    android:inputType="number"
    android:layout below="@id/etn1"
    android:text=""
    />
<RelativeLayout
    android:id="@+id/rl"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/etn2"
    <Button
        android:id="@+id/btadd"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:layout marginTop="10dp"
        android:text="+" />
    <Button
       android:id="@+id/btsub"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:layout toRightOf="@id/btadd"
        android:layout_marginTop="10dp"
        android:text="-" />
    <Button
        android:id="@+id/btdiv"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout_toRightOf="@id/btsub"
        android:layout marginTop="10dp"
        android:text="/" />
    <Button
        android:id="@+id/btmult"
        android:layout_width="wrap_content"
        android:layout_height="wrap content"
        android:layout marginTop="10dp"
        android:layout toRightOf="@id/btdiv"
        android:text="\overline{\tau}" />
</RelativeLayout>
```

```
<EditText
    android:id="@+id/etres"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:layout_below="@id/rl"
    android:layout_marginTop="30dp"

android:text="" />
```

## </LinearLayout>

## <u>OUTPUT</u>



## CO1-4. Implement validations on various UI controls

# **XML**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
  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"
  android:orientation="vertical"
  tools:context=".MainActivity">
  <CheckBox
       android:id="@+id/chekapple"
      android:layout width="wrap content"
      android:layout height="wrap content"
      android:text="Apple"
       tools:layout editor absoluteX="16dp"
       tools:layout editor absoluteY="157dp" />
  <CheckBox
       android:id="@+id/chkorange"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:text="Orange" />
  <CheckBox
      android:id="@+id/chkgrapes"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:text="Grapes" />
  <TextView
      android:id="@+id/tvres"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:text="" />
  <RadioGroup
       android:layout width="match parent"
       android:layout height="wrap content"
       android:orientation="horizontal">
  <RadioButton
       android:id="@+id/rdmale"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:text="Male" />
  <RadioButton
       android:id="@+id/rdfemale"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:text="Female" />
  </RadioGroup>
```

```
<ToggleButton
       android:id="@+id/tgonoff"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:textOn="ON"
       android:textOff="OFF"/>
   <Switch
       android:id="@+id/swone"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:textOn="ON"
       android:textOff="OFF"
      android:text="Are You Indian" />
   <Spinner
       android:id="@+id/country"
       android:layout width="wrap content"
       android:layout height="wrap content"
       android:entries="@array/list"
   />
   <Button
      android:id="@+id/click"
       android:layout width="wrap content"
       android:layout height="wrap_content"
       android:src="@drawable/n2"
       android:text="Display" />
   <ImageView</pre>
       android:id="@+id/img"
       android:layout width="match parent"
       android:layout height="100dp"
       android:src="@drawable/nature"
       android:contentDescription="nature" />
</LinearLayout>
```

```
package com.example.box;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.ImageView;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.Switch;
import android.widget.TextView;
import android.widget.Toast;
import android.widget.ToggleButton;
```

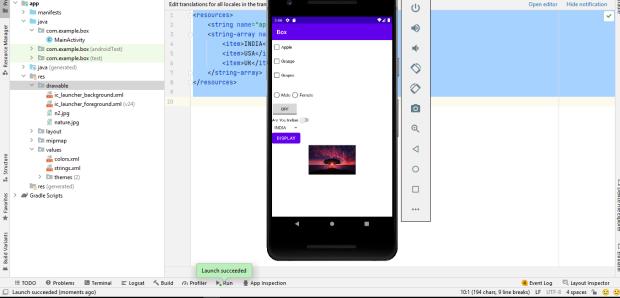
```
public class MainActivity extends AppCompatActivity {
CheckBox apple, orange, grapes;
String chkstr="",chkstr1="",chkstr2="";
RadioButton male, female;
ToggleButton tg;
Switch sw;
Spinner sp;
Button btclick;
ImageView img;
TextView res;
  @Override
   protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity main);
       apple=(CheckBox) findViewById(R.id.chekapple);
       orange=(CheckBox) findViewById(R.id.chkorange);
       grapes=(CheckBox)findViewById(R.id.chkgrapes);
       res=(TextView) findViewById(R.id.tvres);
       male=(RadioButton)findViewById(R.id.rdmale);
       female= (RadioButton) findViewById (R.id.rdfemale);
       tg=(ToggleButton) findViewById(R.id.tgonoff);
       sw=(Switch) findViewById(R.id.swone);
       sp=(Spinner)findViewById(R.id.country);
       btclick=(Button)findViewById(R.id.click);
       img=(ImageView)findViewById(R.id.img);
       apple.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               if(apple.isChecked())
                   chkstr=apple.getText().toString();
               else
                   chkstr="";
               res.setText(chkstr+chkstr1+chkstr2);
           }
       });
       orange.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               if (orange.isChecked())
                   chkstr1=orange.getText().toString();
               else
                   chkstr1="";
               res.setText(chkstr+chkstr1+chkstr2);
           }
       });
       grapes.setOnClickListener(new View.OnClickListener() {
           @Override
           public void onClick(View v) {
               if(grapes.isChecked())
                   chkstr2=grapes.getText().toString();
               else
                   chkstr2="";
               res.setText(chkstr+chkstr1+chkstr2);
           }
       });
       male.setOnClickListener(new View.OnClickListener() {
           @Override
```

```
public void onClick(View v) {
               Toast t=
Toast.makeText(getApplicationContext(), "male", Toast.LENGTH SHORT);
               t.show();
       });
     female.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
             Toast
t=Toast.makeText(getApplicationContext(), "female", Toast.LENGTH SHORT);
            t.show();
         }
     });
  tg.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
           if (tg.isChecked()) {
               Toast t = Toast.makeText(getApplicationContext(),
tg.getTextOn(), Toast.LENGTH SHORT);
               t.show();
           } else
               Toast.makeText(getApplicationContext(), tg.getTextOff(),
Toast.LENGTH SHORT).show();
      }
     });
  sw.setOnClickListener(new View.OnClickListener() {
      @Override
       public void onClick(View v) {
           if(sw.isChecked()) {
               Toast
t=Toast.makeText(getApplicationContext(),sw.getTextOn(),Toast.LENGTH SHORT)
               t.show();
           }
               Toast.makeText(getApplicationContext(),sw.getTextOff(),Toast
.LENGTH SHORT) .show();
       }
  });
 btclick.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
          Toast.makeText(getApplicationContext(),sp.getSelectedItem().toStr
ing(),Toast.LENGTH SHORT).show();
          img.setImageResource(R.drawable.n2);
      }
  });
   }
}
```

```
<resources>
   <string name="app name">Box</string>
   <string-array name="list">
       <item>INDIA</item>
       <item>USA</item>
       <item>UK</item>
   </string-array>
</resources>
```



**OUTPUT** 



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