MOBILE APPLICATION DEVELOPMENT LAB

CYCLE 1

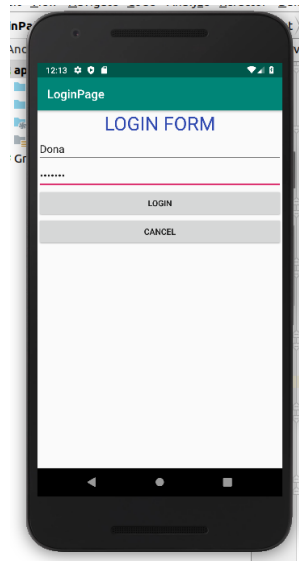# 1. Design a Login page

activity_main.xml

```xml
<LinearLayout
    android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="LOGIN FORM"
        android:textSize="32sp"
        android:gravity="center"
        android:textColor="#3049b0" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/et1"
        android:hint="username"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/et2"
        android:hint="password"
        android:inputType="textPassword"/>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/b1"
        android:text="LOGIN"
        android:onClick="LOGIN" />
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/b2"
        android:text="CANCEL"
        android:onClick="CANCEL"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.sjcet.loginpage;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```
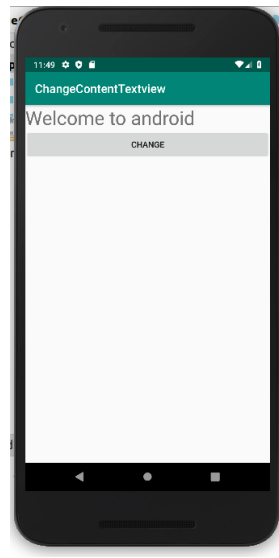
2. Change the content in the TextView on a button click.

activity_main.xml

```xml
<LinearLayout
    android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Welcome"
        android:id="@+id/tv1"
        android:textSize="32sp"/>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/b1"
        android:text="Change"
        android:onClick="click"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.sjcet.changecontenttextview;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
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 click(View view) {
        TextView tv = (TextView)findViewById(R.id.tv1);
        tv.setText("Welcome to android");
    }
}
```
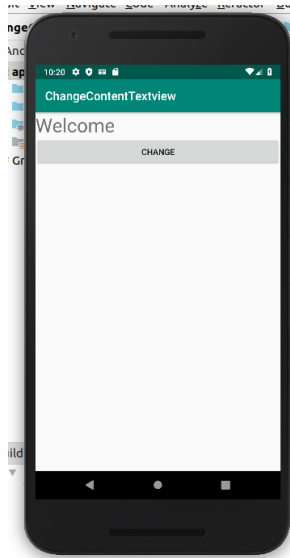
3. Read a content from EditText and print it in a TextView

activity_main.xml

```xml
<LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:gravity="center"
        xmlns:android="http://schemas.android.com/apk/res/android">
        <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/tv"
                android:text="Dona"/>
        <EditText
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/et"
                android:hint="Enter Text"/>
        <Button
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/btn"
                android:text="Change TextView"
                android:onClick="click"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.sjcet.readfromedittext;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
        TextView tv;
        EditText et;
        @Override
        protected void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
```

```
        }
        public void click(View view) {
                tv = findViewById(R.id.tv);
                et = findViewById(R.id.et);
                tv.setText(et.getText());
        }
}
```


4. **Change the background color on a button click**

activity_main.xml

```
<LinearLayout android:id="@+id/l1"

        android:layout_height="match_parent"
        android:layout_width="match_parent"
        xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:tools="http://schemas.android.com/tools">
        <Button
                android:id="@+id/button"
                android:layout_width="250dp"
                android:layout_height="wrap_content"
                android:padding="20dp"
                android:layout_marginLeft="70dp"
                android:layout_marginTop="190dp"
                android:text="Click here to change color" />
</LinearLayout>
```
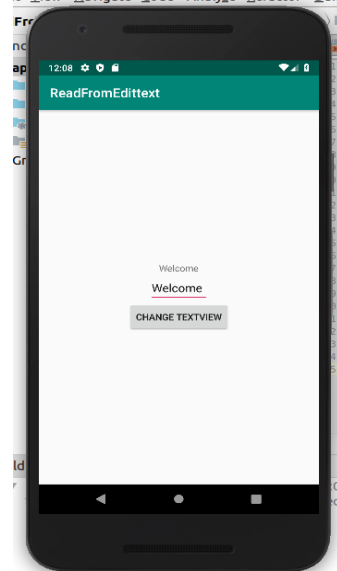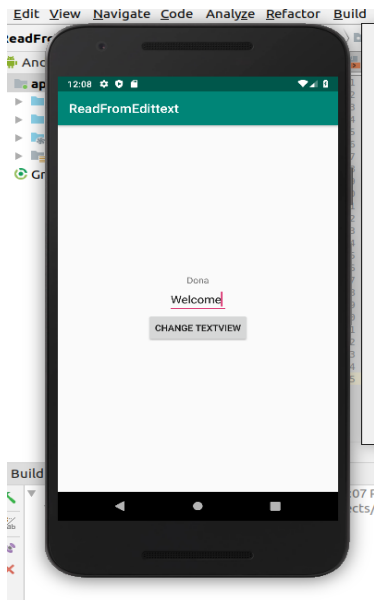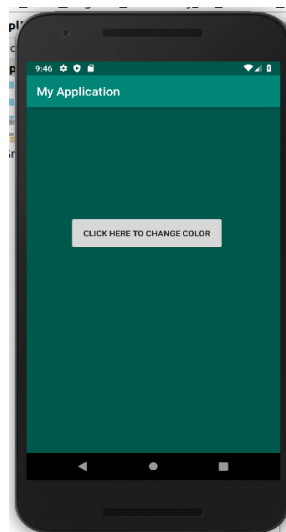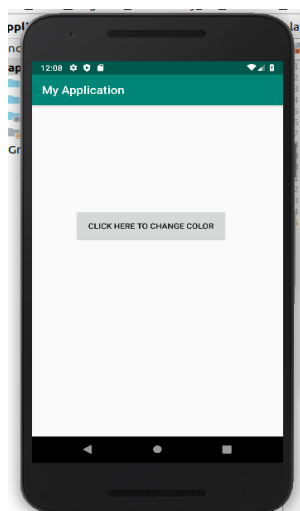
MainActivity.java

```java
package com.example.sjcet.myapplication;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.LinearLayout;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button button1;
        final LinearLayout Layout;
        Layout =findViewById(R.id.ll);
        button1 = findViewById(R.id.button);
        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Layout.setBackgroundResource(R.color.colorPrimaryDark);
            }
        });
    }
}
```


5. Create a sample calculator

activity_main.xml

```xml
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/relative1"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<EditText
    android:id="@+id/edt1"
```

```xml
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
<Button
        android:id="@+id/button1"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/button4"
        android:layout_alignRight="@+id/button4"
        android:layout_below="@+id/edt1"
        android:layout_marginTop="94dp"
        android:text="1" />
<Button
        android:id="@+id/button2"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/button1"
        android:layout_toLeftOf="@+id/button3"
        android:layout_toStartOf="@+id/button3"
        android:text="2" />
<Button
        android:id="@+id/button3"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/button2"
        android:layout_centerHorizontal="true"
        android:text="3" />
<Button
        android:id="@+id/button4"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button1"
        android:layout_toLeftOf="@+id/button2"
        android:text="4" />
<Button
        android:id="@+id/button5"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/button4"
        android:layout_alignLeft="@+id/button2"
        android:layout_alignStart="@+id/button2"
        android:text="5" />
<Button
        android:id="@+id/button6"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button3"
        android:layout_alignStart="@+id/button3"
        android:layout_below="@+id/button3"
        android:text="6" />
<Button
        android:id="@+id/button7"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button4"
        android:layout_toLeftOf="@+id/button2"
        android:text="7" />
<Button
        android:id="@+id/button8"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button5"
```

```xml
        android:layout_alignStart="@+id/button5"
        android:layout_below="@+id/button5"
        android:text="8" />
<Button
        android:id="@+id/button9"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button6"
        android:layout_alignStart="@+id/button6"
        android:layout_below="@+id/button6"
        android:text="9" />
<Button
        android:id="@+id/buttonadd"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/edt1"
        android:layout_alignRight="@+id/edt1"
        android:layout_alignTop="@+id/button3"
        android:layout_marginLeft="46dp"
        android:layout_marginStart="46dp"
        android:layout_toRightOf="@+id/button3"
        android:text="+" />
<Button
        android:id="@+id/buttonsub"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttonadd"
        android:layout_alignLeft="@+id/buttonadd"
        android:layout_alignRight="@+id/buttonadd"
        android:layout_alignStart="@+id/buttonadd"
        android:layout_below="@+id/buttonadd"
        android:text="-" />
<Button
        android:id="@+id/buttonmul"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/buttonsub"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignStart="@+id/buttonsub"
        android:layout_below="@+id/buttonsub"
        android:text="*" />
<Button
        android:id="@+id/button10"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button7"
        android:layout_toLeftOf="@+id/button2"
        android:text="." />
<Button
        android:id="@+id/button0"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button8"
        android:layout_alignStart="@+id/button8"
        android:layout_below="@+id/button8"
        android:text="0" />
<Button
        android:id="@+id/buttonC"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button9"
```

```xml
            android:layout_alignStart="@+id/button9"
            android:layout_below="@+id/button9"
            android:text="C" />
    <Button
            android:id="@+id/buttondiv"
            style="?android:attr/buttonStyleSmall"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignEnd="@+id/buttonmul"
            android:layout_alignLeft="@+id/buttonmul"
            android:layout_alignRight="@+id/buttonmul"
            android:layout_alignStart="@+id/buttonmul"
            android:layout_below="@+id/buttonmul"
            android:text="/" />
    <Button
            android:id="@+id/buttoneql"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignEnd="@+id/buttondiv"
            android:layout_alignLeft="@+id/button10"
            android:layout_alignRight="@+id/buttondiv"
            android:layout_alignStart="@+id/button10"
            android:layout_below="@+id/button0"
            android:layout_marginTop="37dp"
            android:text="=" />
</RelativeLayout>
```

MainActivity.java

package com.example.sjcet.a5_calculator;

```java
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.text.Editable;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    Button button0, button1, button2, button3, button4, button5, button6,        button7, button8,button9,
buttonAdd, buttonSub, buttonDivision, buttonMul,      button10, buttonC, buttonEqual;
    EditText crunchifyEditText;
    float mValueOne, mValueTwo;
    boolean crunchifyAddition, mSubtract, crunchifyMultiplication,      crunchifyDivision;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button0 = (Button) findViewById(R.id.button0);
        button1 = (Button) findViewById(R.id.button1);
        button2 = (Button) findViewById(R.id.button2);
        button3 = (Button) findViewById(R.id.button3);
        button4 = (Button) findViewById(R.id.button4);
        button5 = (Button) findViewById(R.id.button5);
        button6 = (Button) findViewById(R.id.button6);
        button7 = (Button) findViewById(R.id.button7);
        button8 = (Button) findViewById(R.id.button8);
        button9 = (Button) findViewById(R.id.button9);
        button10 = (Button) findViewById(R.id.button10);
        buttonAdd = (Button) findViewById(R.id.buttonadd);
        buttonSub = (Button) findViewById(R.id.buttonsub);
        buttonMul = (Button) findViewById(R.id.buttonmul);
        buttonDivision = (Button) findViewById(R.id.buttondiv);
        buttonC = (Button) findViewById(R.id.buttonC);
```

```java
        buttonEqual = (Button) findViewById(R.id.buttoneql);
        crunchifyEditText = (EditText) findViewById(R.id.edt1);
        button1.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "1");
                }
        });
        button2.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "2");
                }
        });
    button3.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "3");
                }
});
        button4.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "4");
                }
        });
        button5.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "5");
                }
        });
        button6.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "6");
                }
        });
        button7.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "7");
                }
        });
        button8.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "8");
                }
        });
        button9.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "9");
                }
        });
        button0.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + "0");
                }
        });
        buttonAdd.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        if (crunchifyEditText == null){
                                crunchifyEditText.setText("");
                        }else {
                        mValueOne = Float.parseFloat(crunchifyEditText.getText() + "");
```

```java
                                crunchifyAddition = true;
                                crunchifyEditText.setText(null);
                        }
                }
        });
        buttonSub.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        mValueOne = Float.parseFloat(crunchifyEditText.getText() + "");
                        mSubtract = true;
                        crunchifyEditText.setText(null);
                }
        });
buttonMul.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        mValueOne = Float.parseFloat(crunchifyEditText.getText() + "");
                        crunchifyMultiplication = true;
                        crunchifyEditText.setText(null);
                }
        });
        buttonDivision.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        mValueOne = Float.parseFloat(crunchifyEditText.getText() + "");
                        crunchifyDivision = true;
                        crunchifyEditText.setText(null);
                }
        });
        buttonEqual.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        mValueTwo = Float.parseFloat(crunchifyEditText.getText() + "");
                        if (crunchifyAddition == true) {
                                crunchifyEditText.setText(mValueOne + mValueTwo + "");
                                crunchifyAddition = false;
                        }
                        if (mSubtract == true) {
                                crunchifyEditText.setText(mValueOne - mValueTwo + "");
                                mSubtract = false;
                        }
                        if (crunchifyMultiplication == true) {
                                crunchifyEditText.setText(mValueOne * mValueTwo + "");
                                crunchifyMultiplication = false;
                        }
                        if (crunchifyDivision == true) {
                                crunchifyEditText.setText(mValueOne / mValueTwo + "");
                                crunchifyDivision = false;
                        }
                }
        });
        buttonC.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText("");
                }
        });




        button10.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                        crunchifyEditText.setText(crunchifyEditText.getText() + ".");
                }
```

```
                });
            }
        }
```