MOBILE APPLICATION DEVELOPMENT LAB

CYCLE 1

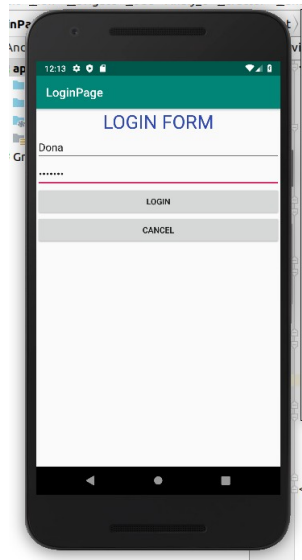## 1. Design a Login page

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);
    }
}
```
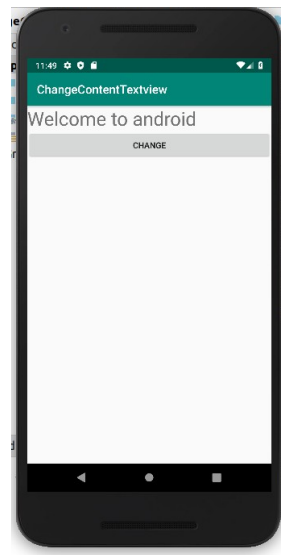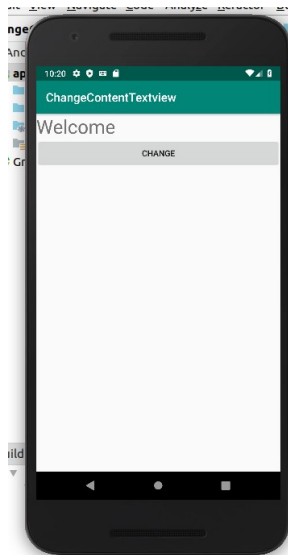
2. **Change the content in the TextView on a button click.**

<u>activity_main.xml</u>

```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>
```

<u>MainActivity.java</u>

```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>
```
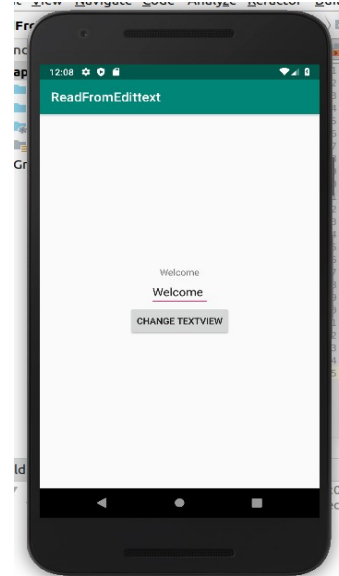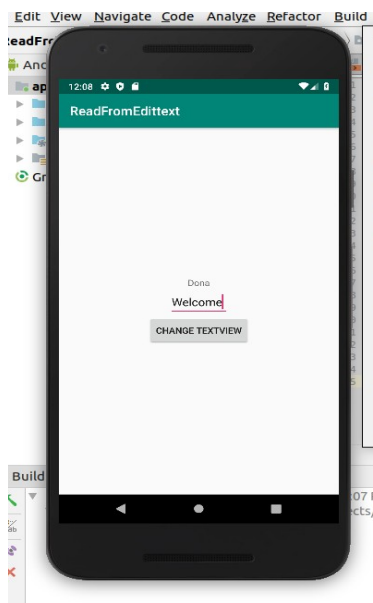
   MainActivity.java

```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
```

```java
        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

```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>
```
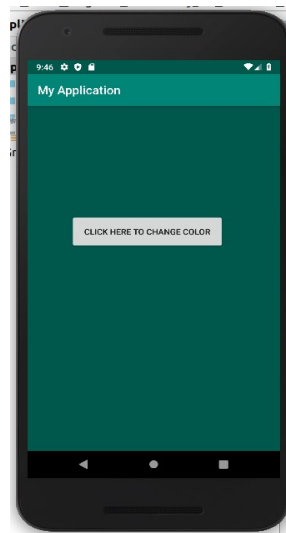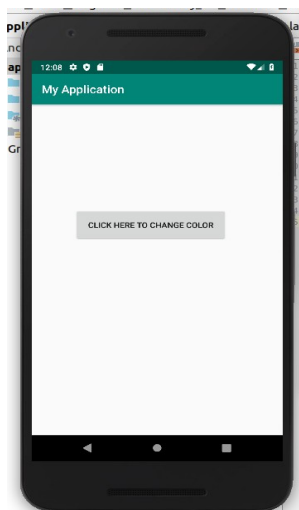
MainActivity.java

```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.l1);
        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"
```

```xml
    tools:context=".MainActivity">
<EditText
    android:id="@+id/edt1"
    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
```

```xml
        android:id="@+id/button8"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button5"
        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"
```

```xml
                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"
            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);
```

```java
        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);
        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() {
```

```java
                @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() +
"");

                    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;
                }
            }
```

```java
            });
            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() + ".");
                }
            });
        }
    }
```