

# **MC Lab 5: Create a simple temperature converter application using Android/other as a separate module of previous.**

Name: Ashutosh Mathore

Roll no.: 202010013

## **XML Code:**

### **(activity\_main.xml)**

```
<?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">

    <RadioGroup
        android:id = "@+id/radiogroup"
        android:layout_width="183dp"
        android:layout_height="100dp"
        android:layout_marginTop="224dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.938"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <RadioButton
            android:id="@+id/ctof"
            android:layout_width="176dp"
            android:layout_height="wrap_content"
            android:text="Celsius To Fahrenheit" />

        <RadioButton
            android:id="@+id/ftoc"
            android:layout_width="176dp"
            android:layout_height="wrap_content"
            android:text="Fahrenheit To Celsius" />
```

```
</RadioGroup>

<EditText
    android:id="@+id/input"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="84dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.925"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView"
    android:layout_width="152dp"
    android:layout_height="37dp"
    android:layout_marginTop="92dp"
    android:text="Enter Temperature:"
    android:textSize="15dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.061"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="147dp"
    android:layout_height="34dp"
    android:layout_marginTop="236dp"
    android:text="Select Conversion:"
    android:textSize="15dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/convert"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="367dp"
    android:text="Convert"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/output"
    android:layout_width="191dp"
    android:layout_height="77dp"
    android:layout_marginTop="473dp"
    android:textStyle="bold"
    android:textAlignment="center"
    android:textSize = "20dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

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

## **JAVA Code:**

### **(MainActivity.java)**

```
package com.example.temperature;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    EditText input;
    RadioButton ctof, ftof;
    Button convert;
    TextView output;
    RadioGroup radiogroup;

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

        input = (EditText) findViewById(R.id.input);
        ctof = (RadioButton) findViewById(R.id.ctof);
```

```
ftoc = (RadioButton) findViewById(R.id.ftoc);
output = (TextView) findViewById(R.id.output);
radiogroup = (RadioGroup)
findViewById(R.id.radiogroup);
convert = (Button) findViewById(R.id.convert);

convert.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View v) {
        if (radiogroup.getCheckedRadioButtonId() ==
ctof.getId()){
            float n =
Float.parseFloat(input.getText().toString());
            float ans = (n * 9/5) + 32;
            output.setText("F: " + ans);
        }
        else if (radiogroup.getCheckedRadioButtonId() ==
== ftoc.getId()){
            float n =
Float.parseFloat(input.getText().toString());
            float ans = ((n - 32) * 5 / 9);
            output.setText("C: " + ans);
        }
    }
});
```

## OUTPUT:

