

PRACTICAL: 4

AIM:

Create a temperature converter Application. (Fahrenheit-Celsius)

THEORY:

EditText: A user interface element for entering and modifying text. When you define an edit text widget, you must specify the `R.styleable.TextView_inputType` attribute. For example, for plain text input set `inputType` to "text". Choosing the input type configures the keyboard type that is shown, acceptable characters, and appearance of the edit text.

Button: A user interface element the user can tap or click to perform an action. To specify an action when the button is pressed, set a click listener on the button object in the corresponding activity code.

About method used:

setOnClickListener(): `setOnClickListener` is a method in Android basically used with buttons, image buttons etc. While invoking this method a callback function will run. One can also create a class for more than one listener, so this can lead you to code reusability. After making the class you can implement `android.view.View.OnClickListener{ }` method which gives you an override method inherited from super class called `onClick(View v){ }` in which you can easily implement your code.

CODE:

```
// MainActivity.java

package com.example.practical4_17it002;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    EditText Value;
    Button cfk;
    Button fck;
    Button kcf;
    TextView text1;
    TextView text2;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    cfk = (Button)findViewById(R.id.cfk);
    fck = (Button)findViewById(R.id.fck);
    kcf = (Button)findViewById(R.id.kcf);
    Value = (EditText)findViewById(R.id.Value);
    text1 = (TextView)findViewById(R.id.Text1);
    text2 = (TextView)findViewById(R.id.Text2);
    cfk.setOnClickListener(new View.OnClickListener(){
        @Override
        public void onClick(View v){
            double K,F;
            double intValue = Integer.parseInt(Value.getText().toString());
            K = intValue + 273.15;
            F = (intValue*9/5) + 32;
            text1.setText(Double.toString(K) + " K" );
            text2.setText(Double.toString(F) + " F");
        }
    });
    fck.setOnClickListener(new View.OnClickListener(){
        @Override
        public void onClick(View v){
            double C,K;
            double intValue = Integer.parseInt(Value.getText().toString());
            C = (intValue-32)*5/9;
            K = C+273.15;
            text1.setText(Double.toString(K) + " K" );
            text2.setText(Double.toString(C) + " C");
        }
    });
    kcf.setOnClickListener(new View.OnClickListener(){
        @Override
        public void onClick(View v){
            double C,F;
            double intValue = Integer.parseInt(Value.getText().toString());
            C = intValue - 273.15;
            F = (intValue*9/5) + 32;
            text1.setText(Double.toString(C) + " C" );
            text2.setText(Double.toString(F) + " F");
        }
    });
}

```

// 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"

```

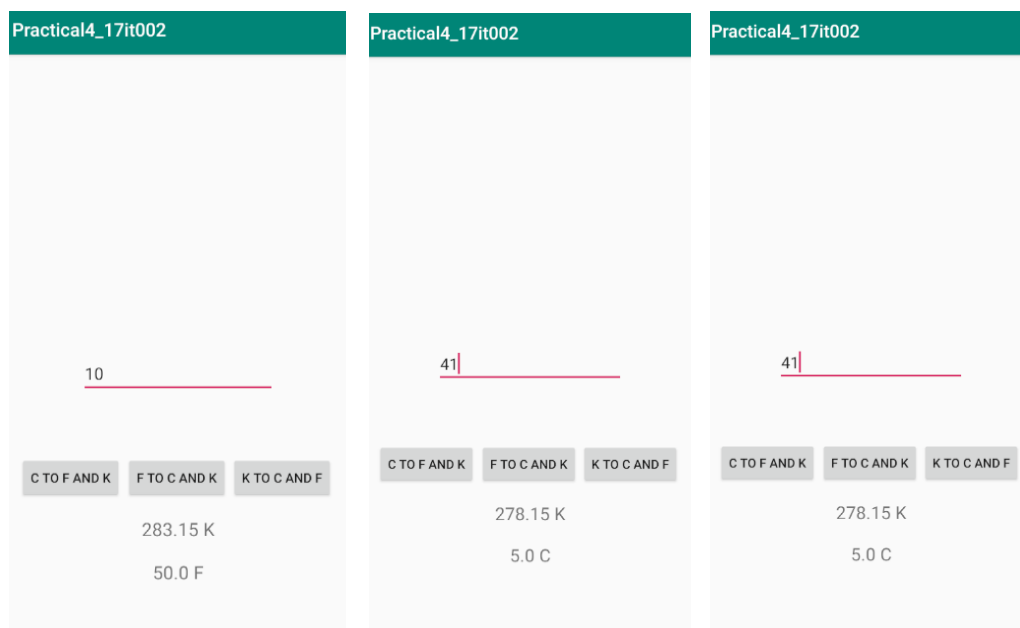
```
android:layout_height="match_parent"
tools:context=".MainActivity">
<EditText
    android:id="@+id/Value"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="324dp"
    android:ems="10"
    android:hint="Temprature"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/cfk"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginLeft="24dp"
    android:layout_marginBottom="196dp"
    android:text="C to F and K"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent" />
<Button
    android:id="@+id/fck"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="196dp"
    android:text="F to C and K"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toStartOf="@+id/kcf"
    app:layout_constraintHorizontal_bias="0.585"
    app:layout_constraintStart_toEndOf="@+id/cfk" />
<Button
    android:id="@+id/kcf"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="28dp"
    android:layout_marginRight="28dp"
    android:layout_marginBottom="196dp"
    android:text="K to C and F"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
<TextView
    android:id="@+id/Text1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="20dp"
    android:textSize="20sp"
    app:layout_constraintBottom_toTopOf="@+id/Text2"
    app:layout_constraintEnd_toEndOf="parent"
```

```

        app:layout_constraintStart_toStartOf="parent" />
<TextView
    android:id="@+id/Text2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="104dp"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent" />

```

OUTPUT:



LATEST APPLICATIONS:

Application which has login page, that need button and EditText mostly, like facebook login page, instagram login page, Netflix etc.

LEARNING OUTCOME:

Using EditText we can take input from the user and using button we can do some process on the input given by the user as user want.