

Homework 1 - Android

Create an APP that shows the following UI views:

It converts the temperature in Fahrenheit to Celsius using a UI slider. Here is the formula:

$$C = (5/9) * (F - 32)$$

It should show “cold,” “just right,” “Hot” with the corresponding colors in a label when temperature changes.

Cold \leq 40 F

40 F < Just Right < 90 F

Hot \geq 90 F

The image should change dynamically according to the definition above.

The UI should look reasonably friendly in terms of position and proportion, please also make sure that the screens look good when the device is turned into horizontal position. Provide the necessary screenshots in horizontal positions.

Portrait View

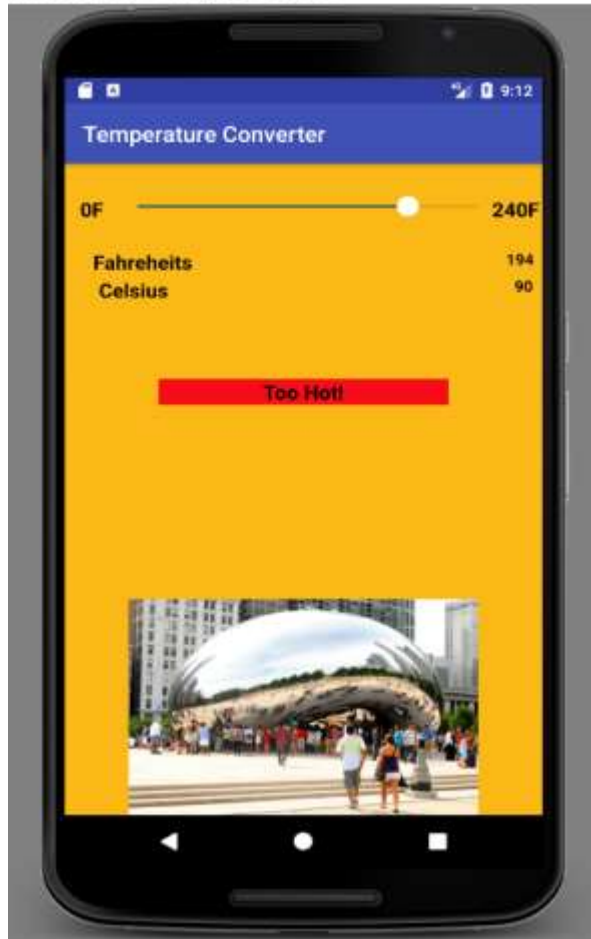
Android Emulator - Nexus_6_API_25:5554



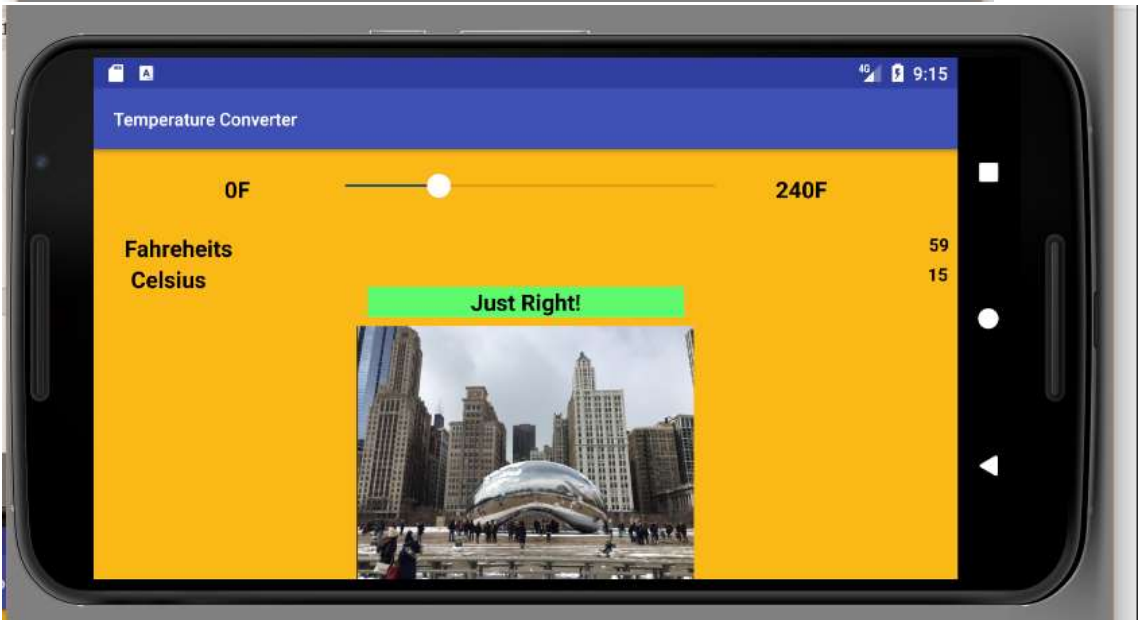
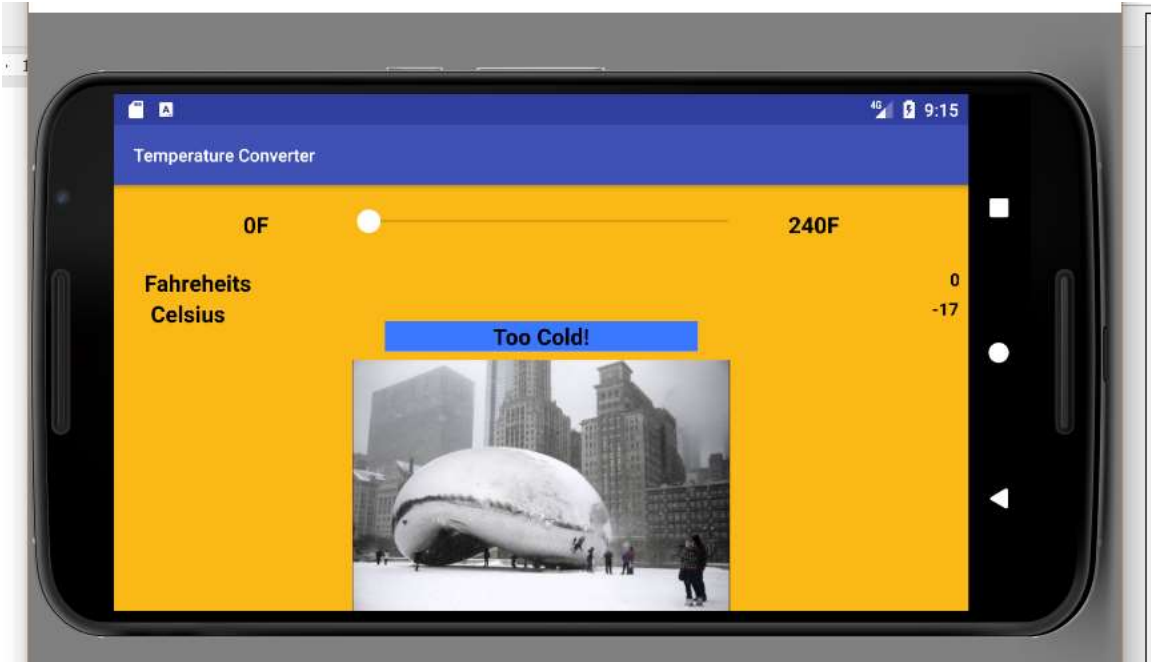
Android Emulator - Nexus_6_API_25:5554



Android Emulator - Nexus_6_API_25:5554



Landscape View



Java Code:

```
package com.example.vasugupta.temperatureconverter;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.widget.ImageView;
import android.widget.SeekBar;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    public SeekBar S1;
    public TextView C1;
    public TextView F1;
    public TextView T1;
    int progress = 0;
    ImageView I1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        I1 = (ImageView) findViewById(R.id.image);
        F1 = (TextView) findViewById(R.id.Feh);
        C1 = (TextView) findViewById(R.id.Cel);
        T1 = (TextView) findViewById(R.id.textView5);
        S1 = (SeekBar) findViewById(R.id.cont);
        S1.setMax(240);
        S1.setProgress(progress);
        Seekbarprogress();
    }
    public void Seekbarprogress()
    {
        S1.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {

            @Override
            public void onProgressChanged(SeekBar S1, int progress, boolean
fromUser)
            {
                F1.setText(String.valueOf(progress));
                int c = ((progress-32)*5)/9;
                C1.setText(String.valueOf(c));

                if( S1.getProgress()>=40&&S1.getProgress()<=90)
                {
                    //Toast.makeText(getApplicationContext(),
"Pleasant",Toast.LENGTH_SHORT).show();
                    I1.setImageResource(R.drawable.medium);
                    T1.setText("Just Right!");
                    T1.setBackgroundColor(getResources().getColor(R.color.pleasant));
                }
                if( S1.getProgress()>=90)
                {
                    //Toast.makeText(getApplicationContext(), "Extreme
Hot",Toast.LENGTH_SHORT).show();
                    I1.setImageResource(R.drawable.hot);
                    T1.setText("Too Hot!");
                    T1.setBackgroundColor(getResources().getColor(R.color.hot));
                }
                else if(S1.getProgress()<40)
                {
                    I1.setImageResource(R.drawable.cold);
                    T1.setText("Too Cold!");
                }
            }
        });
    }
}
```

```

        T1.setBackgroundColor(getResources().getColor(R.color.cold));
        //Toast.makeText(getApplicationContext(), "Extreme
Cold",Toast.LENGTH_SHORT).show();
    }
}
@Override
public void onStartTrackingTouch(SeekBar S1) {}
@Override
public void onStopTrackingTouch(SeekBar S1) {}

});}}

```

XML CODE:

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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"
android:background="#FBB917"
tools:context="com.example.vasugupta.temperatureconverter.MainActivity"
tools:layout_editor_absoluteY="81dp"
tools:layout_editor_absoluteX="0dp">

<TextView
    android:id="@+id/textView8"
    android:layout_width="87dp"
    android:layout_height="24dp"
    android:layout_marginBottom="0dp"
    android:layout_marginEnd="21dp"
    android:layout_marginRight="0dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="1dp"
    android:freezesText="true"
    android:text="Celsius"
    android:textAlignment="center"
    android:textColor="@android:color/black"
    android:textSize="18sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/textView5"
    app:layout_constraintHorizontal_bias="0.129"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toLeftOf="@+id/Cel"
    app:layout_constraintTop_toTopOf="@+id/Cel"
    app:layout_constraintVertical_bias="0.0"
    tools:layout_constraintBottom_creator="1"
    tools:layout_constraintLeft_creator="1"
    tools:layout_constraintRight_creator="1"
    tools:layout_constraintTop_creator="1" />

<TextView
    android:id="@+id/textView6"
    android:layout_width="47dp"
    android:layout_height="37dp"
    android:layout_marginEnd="16dp"
    android:autoText="false"
    android:contextClickable="false"
    android:freezesText="true"
    android:text="240F"
    android:textAlignment="center"
    android:textColor="@android:color/black"
    android:textSize="18sp"
    android:textStyle="bold"
    tools:layout_constraintRight_creator="1"
    tools:layout_constraintTop_creator="1"

```

```

        android:layout_marginRight="16dp"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintLeft_toRightOf="@+id/cont"
        android:layout_marginLeft="8dp"
        app:layout_constraintHorizontal_bias="0.258"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginBottom="8dp"
        app:layout_constraintVertical_bias="0.04" />

```

<SeekBar

```

        android:id="@+id/cont"
        android:layout_width="324dp"

        android:layout_height="33dp"
        android:layout_marginBottom="0dp"
        android:layout_marginEnd="13dp"
        android:layout_marginStart="19dp"
        android:layout_marginTop="0dp"
        android:accessibilityLiveRegion="polite"
        android:elevation="22dp"
        android:max="240"
        android:progress="0"
        android:theme="@style/bigthumb"
        android:thumbTint="@android:color/white"
        android:thumbTintMode="src_atop"
        app:layout_constraintBottom_toBottomOf="@+id/image"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.04"
        tools:layout_constraintLeft_creator="1"
        tools:layout_constraintRight_creator="1"
        tools:layout_constraintTop_creator="1"
        android:layout_marginLeft="8dp"
        app:layout_constraintLeft_toLeftOf="parent"
        android:layout_marginRight="8dp"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintHorizontal_bias="0.5" />

```

<ImageView

```

        android:id="@+id/image"
        android:layout_width="0dp"
        android:layout_height="200dp"
        android:adjustViewBounds="false"
        android:cropToPadding="false"
        android:fitsSystemWindows="false"
        android:src="@drawable/cold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView5"
        app:layout_constraintVertical_bias="1.0"
        tools:layout_constraintBottom_creator="1"
        tools:layout_constraintLeft_creator="1"
        tools:layout_constraintRight_creator="1" />

```

<TextView

```

        android:id="@+id/Cel"
        android:layout_width="192dp"
        android:layout_height="23dp"
        android:layout_marginBottom="8dp"
        android:background="@android:color/transparent"
        android:ems="10"
        android:inputType="none"
        android:textAlignment="textEnd"
        android:textColor="@android:color/black"

```

```

        android:textSize="14sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="@+id/textView5"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/Feh"
        app:layout_constraintVertical_bias="0.021"
        tools:layout_constraintTop_creator="1"
        android:layout_marginRight="8dp"
        app:layout_constraintLeft_toRightOf="parent"
        android:layout_marginLeft="0dp"
        app:layout_constraintHorizontal_bias="1.0"
        tools:layout_editor_absoluteX="211dp" />

```

<TextView

```

        android:id="@+id/textView2"
        android:layout_width="47dp"
        android:layout_height="37dp"
        android:freezesText="true"
        android:text="0F"
        android:textAlignment="center"
        android:textColor="@android:color/black"
        android:textSize="18sp"
        android:textStyle="bold"
        tools:layout_constraintLeft_creator="1"
        tools:layout_constraintTop_creator="1"
        android:layout_marginLeft="16dp"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toLeftOf="@+id/cont"
        android:layout_marginRight="8dp"
        app:layout_constraintHorizontal_bias="0.666"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginBottom="8dp"
        app:layout_constraintVertical_bias="0.04" />

```

<TextView

```

        android:id="@+id/textView4"
        android:layout_width="103dp"
        android:layout_height="24dp"
        android:layout_marginLeft="0dp"
        android:layout_marginStart="16dp"
        android:freezesText="true"
        android:text="Fahreheits"
        android:textAlignment="center"
        android:textColor="@android:color/black"
        android:textSize="18sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="@+id/Feh"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintTop_toTopOf="@+id/Feh"
        app:layout_constraintVertical_bias="0.0"
        tools:layout_constraintBottom_creator="1"
        tools:layout_constraintLeft_creator="1"
        tools:layout_constraintTop_creator="1" />

```

<TextView

```

        android:id="@+id/textView5"
        android:layout_width="304dp"
        android:layout_height="20dp"
        android:layout_margin="0dp"
        android:layout_marginBottom="8dp"
        android:layout_marginTop="8dp"
        android:freezesText="true"
        android:text=" Too cold!"
        android:textAlignment="center"
        android:textColor="@android:color/black"

```

```

        android:textSize="18sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.35"
        tools:layout_editor_absoluteX="162dp" />

<TextView
    android:id="@+id/Feh"
    android:layout_width="193dp"
    android:layout_height="23dp"
    android:layout_marginBottom="8dp"
    android:layout_marginEnd="7dp"
    android:layout_marginLeft="8dp"
    android:layout_marginRight="7dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="20dp"
    android:background="@android:color/transparent"
    android:ems="10"
    android:inputType="none"
    android:textAlignment="textEnd"
    android:textColor="@android:color/black"
    android:textSize="14sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/textView5"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintLeft_toRightOf="@+id/textView4"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/cont"
    app:layout_constraintVertical_bias="0.03"
    tools:layout_constraintBottom_creator="1"
    tools:layout_constraintRight_creator="1"
    tools:layout_constraintTop_creator="1" />

</android.support.constraint.ConstraintLayout>

```

Styles.xml

```

<resources>

    <!-- Base application theme. -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>
    <style name="bigthumb" parent="Widget.AppCompat.SeekBar">
        <item name="colorAccent">#1D5368</item>
        <item name="android:width">28dp</item>
        <item name="android:height">28dp</item>
    </style>
</resources>

```


Colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#3F51B5</color>
    <color name="colorPrimaryDark">#303F9F</color>
    <color name="colorAccent">#FF4081</color>
    <color name="cold">#3A78FF</color>
    <color name="hot">#F70D1A</color>
    <color name="pleasant">#5EFB6E</color>
</resources>
```

Directory Screenshot

