CGPI Activity

Here, we have implemented two activities as-

1) CGPIActivity1.java

In this activity we have asked user to give input as no. of semesters. We will then pass this no of semesters to next activity for further actions.

For this make following changes in activity_cgpi1.xml-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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=".CGPIActivity1">
    <EditText
        android:id="@+id/editText"
        android:layout width="235dp"
        android:layout_height="68dp"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginRight="8dp"
        android:layout_marginBottom="8dp"
         android:ems="10"
         android:hint="No. of Semesters"
         android:inputType="number"
         app:layout constraintBottom toBottomOf="parent"
         app:layout_constraintEnd_toEndOf="parent"
         app:layout_constraintStart_toStartOf="parent"
         app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.32" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content" android:layout_height="wrap_content" android:layout_marginStart="8dp"
         android:layout marginLeft="8dp"
         android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginRight="8dp"
android:layout_marginBottom="8dp"
         android:background="#FFFFFF"
         android:onClick="noOfSemesters"
         android:text="Next"
         android:textColor="#009688"
         app:layout_constraintBottom_toBottomOf="parent"
         app:layout_constraintEnd_toEndOf="parent"
         app:layout_constraintHorizontal_bias="0.498"
         app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText"
         app:layout_constraintVertical_bias="0.369" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Also, make changes in **CGPIActivity1.java** as follows-

```
package com.professionaljk.cgpisgpicalculator;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class CGPIActivity1 extends AppCompatActivity {
   EditText et;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity cgpi1);
        et=findViewById(R.id.editText);
    public void noOfSemesters(View view) {
        if (et.getText().toString().equals("")) {
            Toast.makeText(this, "Enter No. of Semesters",
Toast.LENGTH SHORT).show();
        } else {
            int no of semesters = Integer.valueOf(et.getText().toString());
            if (no_of_semesters >= 1 && no_of_semesters <= 8) {</pre>
                Intent intent = new Intent(this, CGPIActivity2.class);
                intent.putExtra("semesters_count",
String.valueOf(no_of_semesters));
                startActivity(intent);
Toast.LENGTH SHORT).show();
```

2) CGPIActivity2.java

In this activity we will receive no of semesters sent from previous activity. On the basis of no of semesters, we will decide, how many fields to be allowed. Through these fields we will take user pointers. We will then calculate the average CGPI. Also, we will display corresponding percentage.

For these make following changes in activity_cgpi2.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=".CGPIActivity2">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="97dp"
        android:layout_height="40dp"
        android:gravity="center|left"
        android:textSize="18sp"
        app:fontFamily="serif"
        app:layout_constraintBottom_toBottomOf="parent"</pre>
```

```
app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout constraintVertical bias="0.063" />
   android:id="@+id/editText1"
    android:layout_width="239dp"
    android:layout_height="40dp"
    android:ems="10"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal bias="0.347"
    app:layout_constraintStart_toEndOf="@+id/textView1"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical bias="0.063" />
<TextView
   android:id="@+id/textView2"
    android:layout_width="97dp"
android:layout_height="40dp"
    android:gravity="center|left"
    android:text="SEM II"
    android:textSize="18sp"
    app:fontFamily="serif"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout constraintHorizontal bias="0.05"
    app:layout_constraintStart toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView1"
    app:layout constraintVertical bias="0.022" />
<EditText
   android:id="@+id/editText2"
    android:layout width="239dp"
    android:layout_height="40dp"
    android:ems="10"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.355"
    app:layout_constraintStart_toEndOf="@+id/textView2"
    app:layout_constraintTop_toBottomOf="@+id/editText1"
    app:layout constraintVertical bias="0.022" />
<TextView
   android:id="@+id/textView3"
    android:layout_width="97dp"
android:layout_height="40dp"
    android:gravity="center|left"
    android:text="SEM III"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
               _constraintEnd toEndOf="parent"
    app:layout
    app:layout_constraintHorizontal bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2"
    app:layout_constraintVertical_bias="0.02" />
<EditText
    android:id="@+id/editText3"
    android:layout width="239dp"
    android:layout height="40dp"
    android:ems="1\overline{0}"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout constraintHorizontal bias="0.355"
    app:layout_constraintStart_toEndOf="@+id/textView3"
    app:layout_constraintTop_toBottomOf="@+id/editText2"
    app:layout_constraintVertical_bias="0.02" />
<TextView
   android:id="@+id/textView4"
    android:layout width="97dp"
    android:layout_height="40dp"
    android:gravity="center|left"
    android:text="SEM IV"
    android:textSize="18sp"
    app:fontFamily="serif"
    app:layout constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView3"
   app:layout_constraintVertical bias="0.025" />
<EditText
   android:id="@+id/editText4"
    android:layout_width="239dp"
android:layout_height="40dp"
    android:ems="10"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout
               constraintEnd toEndOf="parent
    app:layout_constraintHorizontal_bias="0.355"
    app:layout constraintStart toEndOf="@+id/textView4"
    app:layout_constraintTop_toBottomOf="@+id/editText3"
   app:layout_constraintVertical bias="0.025" />
<TextView
    android:id="@+id/textView5"
    android:layout width="97dp"
    android:layout height="40dp"
    android:gravity="center|left"
    android:text="SEM V"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/textView4"
    app:layout constraintVertical bias="0.038" />
<EditText
   android:id="@+id/editText5"
    android:layout_width="239dp"
    android:layout height="40dp"
    android:ems="1\overline{0}"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
               constraintHorizontal bias="0.355"
    app:layout
    app:layout constraintStart toEndOf="@+id/textView5"
    app:layout constraintTop toBottomOf="@+id/editText4"
    app:layout_constraintVertical bias="0.038" />
<TextView
    android:id="@+id/textView6"
    android:layout width="97dp"
    android:layout height="40dp"
    android:gravity="center|left"
    android:text="SEM VI"
    android:textSize="18sp"
    app:fontFamily="serif"
    app:layout constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout constraintHorizontal bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView5"
    app:layout_constraintVertical_bias="0.052" />
<EditText
   android:id="@+id/editText6"
    android:layout width="239dp"
    android:layout_height="40dp"
    android:ems="1\overline{0}"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
    app:layout_constraintHorizontal bias="0.355"
    app:layout_constraintStart_toEndOf="@+id/textView6"
    app:layout constraintTop toBottomOf="@+id/editText5"
    app:layout constraintVertical bias="0.052" />
<TextView
   android:id="@+id/textView7"
    android:layout_height="37dp"
android:gravity="center|left"
    android:text="SEM VII"
    android:textSize="18sp"
    app:fontFamily="serif"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout
               constraintEnd toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout constraintStart toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView6"
   app:layout_constraintVertical bias="0.074" />
<EditText
    android:id="@+id/editText7"
    android:layout width="239dp"
    android:layout height="40dp"
    android:gravity="center|left"
    android:ems="10"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.355"
    app:layout_constraintStart_toEndOf="@+id/textView7"
    app:layout constraintTop toBottomOf="@+id/editText6"
    app:layout constraintVertical bias="0.075" />
   android:id="@+id/textView8"
    android:layout_width="97dp"
android:layout_height="37dp"
    android:gravity="center|left"
    android:text="SEM VIII"
    android:textSize="18sp"
    app:fontFamily="serif"
    app:layout_constraintBottom_toBottomOf="parent"
               _constraintEnd toEndOf="parent"
    app:layout
    app:layout constraintHorizontal bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView7"
    app:layout_constraintVertical bias="0.055" />
<EditText
    android:id="@+id/editText8"
    android:layout width="239dp"
    android:layout_height="40dp"
    android:ems="1\overline{0}"
    android:enabled="false"
    android:inputType="numberDecimal"
    app:layout_constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout constraintHorizontal bias="0.355"
        app:layout constraintStart toEndOf="@+id/textView8"
        app:layout_constraintTop_toBottomOf="@+id/editText7"
        app:layout_constraintVertical bias="0.04" />
    <Button
        android:id="@+id/calculateButton"
        android:layout_width="125dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:background="#FFFFFF"
        android:foregroundGravity="center"
        android:gravity="center"
        android:text="Calculate"
        android:textColor="#009688"
        android:textSize="20dp"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText8"
app:layout_constraintVertical_bias="0.0" />
        android:id="@+id/resultMessage"
        android:layout_width="307dp"
android:layout_height="67dp"
        android:gravity="center"
        android:textColor="@android:color/holo blue dark"
        android:textSize="20sp"
        app:fontFamily="cursive"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/calculateButton" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Also, make changes in CGPIActivity2.java as follows-

```
package com.professionaljk.cgpisgpicalculator;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class CGPIActivity2 extends AppCompatActivity {
    EditText e1,e2,e3,e4,e5,e6,e7,e8;
    TextView result;
    int n;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_cgpi2);
        e1=findViewById(R.id.editText1);
        e2=findViewById(R.id.editText2);
        e3=findViewById(R.id.editText3);
        e4=findViewById(R.id.editText4);
        e5=findViewById(R.id.editText5);
        e6=findViewById(R.id.editText6);
        e7=findViewById(R.id.editText7);
```

```
e8=findViewById(R.id.editText8);
result=findViewById(R.id.resultMessage);
Intent intent=getIntent();
n=Integer.valueOf(intent.getStringExtra("semesters count"));
switch(n) {
        e1.setFocusable(true);
       break;
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        break;
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
       break:
    case 4:
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
        e4.setEnabled(true);
        break;
    case 5:
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
        e4.setEnabled(true);
        e4.setEnabled(true);
        e5.setEnabled(true);
        break;
    case 6:
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
        e5.setEnabled(true);
       break;
    case 7:
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
        e4.setEnabled(true);
        e5.setEnabled(true);
        e7.setEnabled(true);
        break;
    case 8:
        e1.setFocusable(true);
        e1.setEnabled(true);
        e2.setEnabled(true);
        e3.setEnabled(true);
        e4.setEnabled(true);
        e5.setEnabled(true);
        e6.setEnabled(true);
        e7.setEnabled(true);
        e8.setEnabled(true);
        break;
    default:
       break;
```

```
public boolean checkEmptyField() {
        switch (n) {
                 if (e1.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointer",
                     return false;
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointers",
Toast.LENGTH_SHORT).show();
                     return false;
                break:
             case 3:
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("") || e3.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointers",
Toast. LENGTH SHORT) .show();
                     return false;
                 break;
             case 4:
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("") || e3.getText().toString().equals("") ||
e4.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointers",
Toast. LENGTH SHORT) . show();
                     return false;
                break;
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("") || e3.getText().toString().equals("") ||
e4.getText().toString().equals("") || e5.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointers",
Toast.LENGTH SHORT).show();
                     return false;
                 break;
             case 6:
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("") || e3.getText().toString().equals("")
e4.getText().toString().equals("") || e5.getText().toString().equals("") ||
e6.getText().toString().equals("")) {
                     Toast.makeText(this, "Enter correct pointers",
                     return false;
                break;
                 if (e1.getText().toString().equals("") ||
e2.getText().toString().equals("") || e3.getText().toString().equals("") ||
e4.getText().toString().equals("") || e5.getText().toString().equals("") ||
Toast.LENGTH SHORT).show();
                     return false;
                break;
             case 8:
                 if (e1.getText().toString().equals("") ||
```

```
e2.getText().toString().equals("") || e3.getText().toString().equals("")
e4.getText().toString().equals("") || e5.getText().toString().equals("") ||
e6.getText().toString().equals("") || e7.getText().toString().equals("") ||
                    Toast.makeText(this, "Enter correct pointers",
Toast.LENGTH SHORT).show();
                    return false;
                break;
            default:
                break;
        return true;
    public void calculateCGPI(View view) {
        double n1, n2, n3, n4, n5, n6, n7, n8, cgpi = 0, percentage = 0;
        if (checkEmptyField()) {
            switch (n) {
                case 1:
                    n1 = Double.valueOf(e1.getText().toString());
                    cqpi = n1;
                    break;
                case 2:
                    n1 = Double.valueOf(e1.getText().toString());
                    n2 = Double.valueOf(e2.getText().toString());
                    cgpi = (n1 + n2) / 2;
                    break;
                case 3:
                    n1 = Double.valueOf(e1.getText().toString());
                    n2 = Double.valueOf(e2.getText().toString());
                    n3 = Double.valueOf(e3.getText().toString());
                    break;
                case 4:
                    n1 = Double.valueOf(e1.getText().toString());
                    n2 = Double.valueOf(e2.getText().toString());
                    n3 = Double.valueOf(e3.getText().toString());
                    n4 = Double.valueOf(e4.getText().toString());
                    cgpi = (n1 + n2 + n3 + n4) / 4;
                    break;
                    n1 = Double.valueOf(e1.getText().toString());
                    n2 = Double.valueOf(e2.getText().toString());
                    n3 = Double.valueOf(e3.getText().toString());
                    n4 = Double.valueOf(e4.getText().toString());
                    n5 = Double.valueOf(e5.getText().toString());
                    cgpi = (n1 + n2 + n3 + n4 + n5) / 5;
                    break;
                case 6:
                    n1 = Double.valueOf(e1.getText().toString());
                    n2 = Double.valueOf(e2.getText().toString());
                    n3 = Double.valueOf(e3.getText().toString());
                    n5 = Double.valueOf(e5.getText().toString());
                    n6 = Double.valueOf(e6.getText().toString());
                    cgpi = (n1 + n2 + n3 + n4 + n5 + n6) / 6;
                    break;
                case 7:
                    n1 = Double.valueOf(e1.getText().toString());
                       = Double.valueOf(e2.getText().toString());
                    n3 = Double.valueOf(e3.getText().toString());
                    n4 = Double.valueOf(e4.getText().toString());
                    n5 = Double.valueOf(e5.getText().toString());
                    n6 = Double.valueOf(e6.getText().toString());
                    n7 = Double.valueOf(e7.getText().toString());
                    cgpi = (n1 + n2 + n3 + n4 + n5 + n6 + n7) / 7;
                    break;
```

```
n1 = Double.valueOf(e1.getText().toString());
        n2 = Double.valueOf(e2.getText().toString());
        n3 = Double.valueOf(e3.getText().toString());
        n5 = Double.valueOf(e5.getText().toString());
        n6 = Double.valueOf(e6.getText().toString());
        n7 = Double.valueOf(e7.getText().toString());
        n8 = Double.valueOf(e8.getText().toString());
        cgpi = (n1 + n2 + n3 + n4 + n5 + n6 + n7 + n8) / 8;
        break;
    default:
        break;
cgpi = Math.round(cgpi * 100.0) / 100.0;
if (cgpi >= 4.0 && cgpi <= 6.74) {
    percentage = cgpi * 8 + 5;
    percentage = Math.round(percentage * 100.0) / 100.0;
} else if (cgpi >= 6.75 && cgpi <= 7.24) {
   percentage = cgpi * 8 + 6;
    percentage = Math.round(percentage * 100.0) / 100.0;
} else if (cgpi >= 7.25 && cgpi <= 7.74) {</pre>
    percentage = cgpi * 8 + 7;
    percentage = Math.round(percentage * 100.0) / 100.0;
} else if (cgpi >= 7.75 && cgpi <= 8.24) {</pre>
   percentage = cgpi * 8 + 8;
    percentage = Math.round(percentage * 100.0) / 100.0;
} else if (cgpi >= 8.25) {
    percentage = cgpi * 8 + 9;
    percentage = Math.round(percentage * 100.0) / 100.0;
result.setText("CGPI: " + cgpi + "\n" + "Percentage: " + percentage);
```

OUTPUT:



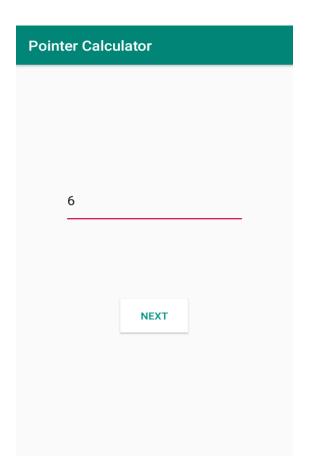


Fig. CGPIActivity1 (Before user input)

Fig. CGPIActivity2 (After user input)

Pointer Calculator	
SEM I	
SEM II	
SEM III	
SEM IV	
SEM V	
SEM VI	
SEM VII	
SEM VIII	
	CALCULATE

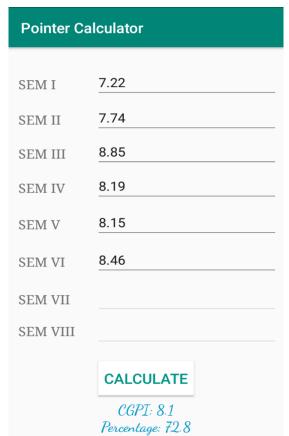


Fig. CGPIActivity2 (Before user input)

Fig. CGPIActivity2 (After user input)