

CSE224: Fundamentals of Android

CA-2

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Github Link: <https://github.com/Sudeep-kr-1999/Android-Development-CA-LPU.git>

Problem-1 Solution

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/backLayout"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/background"
    tools:context=".MainActivity">

    <RelativeLayout
        android:id="@+id/innerLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:translationZ="100dp"
        android:background="@drawable/inner_layout"
        android:padding="20dp"
        android:layout_margin="20dp">
```

<ImageView

```
    android:id="@+id/imageAvatar"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_alignParentTop="true"
    android:contentDescription="@string/android_description"
    android:src="@drawable/avatar_final"
    android:layout_marginTop="95dp"
    android:layout_centerHorizontal="true"
    android:translationZ="200dp"
    android:outlineAmbientShadowColor="@color/black"
    android:outlineSpotShadowColor="@color/inner_blur"/>
```

<com.addisonelliott.segmentedbutton.SegmentedButtonGroup

```
    android:id="@+id/Segmented_buttonGroup"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:layout_margin="20dp"
    android:elevation="2dp"
    android:background="@color/white"
    app:dividerWidth="0dp"
    app:radius="100dp"
    android:showDividers="none"
    app:draggable="true"
    app:selectedButtonRadius="50dp"
    app:selectedBackground="@color/purple_700"
    android:outlineSpotShadowColor="@color/black"
    android:outlineAmbientShadowColor="@color/black"
```

app:ripple="false"

android:layout_below="@+id/imageAvatar">

<com.addisonelliott.segmentedbutton.SegmentedButton

android:layout_width="0dp"

android:layout_height="match_parent"

android:layout_weight="1"

android:padding="10dp"

app:selectionAnimationDuration="1000"

app:drawableGravity="top"

app:text="@string/login"

app:selectedTextColor="@color/white"

app:textColor="@color/black"/>

<com.addisonelliott.segmentedbutton.SegmentedButton

android:layout_width="0dp"

android:layout_height="match_parent"

android:layout_weight="1"

android:padding="10dp"

app:drawableGravity="top"

app:text="@string/sign_up"

app:selectedTextColor="@color/white"

app:textColor="@color/black" />

</com.addisonelliott.segmentedbutton.SegmentedButtonGroup>

<ImageButton

android:id="@+id/twitter_button"

android:layout_marginStart="50dp"

android:layout_marginTop="20dp"

android:layout_width="50dp"

```
android:layout_height="50dp"
android:layout_below="@+id/Segmented_buttonGroup"
android:translationZ="10dp"
android:clickable="true"
android:backgroundTint="@color/white"
android:background="@drawable/twitter"
android:backgroundTintMode="multiply"
android:contentDescription="@string/twitter_description"/>
```

<ImageButton

```
android:id="@+id/facebook_button"
android:layout_marginStart="50dp"
android:layout_marginTop="20dp"
android:layout_width="50dp"
android:layout_height="50dp"
android:layout_below="@+id/Segmented_buttonGroup"
android:contentDescription="@string/facebook_description"
android:backgroundTint="@color/white"
android:backgroundTintMode="multiply"
android:background="@drawable/facebook"
android:translationZ="10dp"
android:clickable="true"
android:layout_toEndOf="@+id/twitter_button"/>
```

<ImageButton

```
android:id="@+id/google_button"
android:layout_marginStart="50dp"
android:layout_marginTop="20dp"
android:layout_width="50dp"
android:layout_height="50dp"
```

```
android:layout_below="@+id/Segmented_buttonGroup"
android:contentDescription="@string/google_description"
android:backgroundTint="@color/white"
android:backgroundTintMode="multiply"
android:background="@drawable/google_plus"
android:translationZ="10dp"
android:clickable="true"
android:layout_toEndOf="@id/facebook_button"/>
```

<TextView

```
android:id="@+id/orText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerHorizontal="true"
android:text="@string/or_text_view"
android:layout_below="@+id/google_button"
android:layout_marginTop="30dp"
android:textSize="15sp"
android:textColor="@color/black"
android:textStyle="normal"
android:fontFamily="sans-serif-medium"/>
```

<TextView

```
android:id="@+id/username_email_view"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="@string/username_email"
android:layout_below="@+id/orText"
android:layout_centerHorizontal="true"
android:textColor="@color/purple_700"
```

```
android:layout_marginTop="15dp"/>
```

```
<EditText
```

```
    android:hint="@string/username_hint"
    android:layout_marginTop="20dp"
    android:id="@+id/username_email_edit_text"
    android:layout_below="@+id/username_email_view"
    android:layout_centerHorizontal="true"
    android:layout_width="300dp"
    android:textAlignment="center"
    android:layout_height="wrap_content"
    android:textStyle="normal"
    android:fontFamily="sans-serif-condensed-medium"
    android:backgroundTint="@color/black"
    android:importantForAutofill="auto"
    android:textDirection="ltr"
    android:maxLength="40"
    android:nextFocusDown="@id/password_text"
    android:textColor="@color/white"/>
```

```
<TextView
```

```
    android:id="@+id/password"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/PassWord"
    android:layout_below="@+id/username_email_edit_text"
    android:layout_centerHorizontal="true"
    android:textColor="@color/purple_700"
    android:layout_marginTop="10dp"/>
```

<EditText

```
    android:layout_marginTop="20dp"
    android:id="@+id/password_text"
    android:hint="@string/password_hint"
    android:textDirection="ltr"
    android:layout_below="@+id/password"
    android:layout_centerHorizontal="true"
    android:layout_width="300dp"
    android:textAlignment="center"
    android:layout_height="wrap_content"
    android:textStyle="normal"
    android:importantForAutofill="auto"
    android:backgroundTint="@color/black"
    android:fontFamily="sans-serif-condensed-medium"
    android:inputType="textPassword"
    android:maxLength="40"
    android:nextFocusDown="@id/done_button"
    android:textColor="@color/white"/>
```

<CheckBox

```
    android:id="@+id/remember_me_checkbox"
    android:layout_below="@+id/password_text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/remember_me_checkbox"
    android:textColor="@color/black"
    android:layout_marginStart="15dp"
    android:layout_marginTop="10dp"/>
```

<Button

```
android:id="@+id/done_button"
android:layout_marginTop="10dp"
android:layout_width="300dp"
android:layout_centerHorizontal="true"
android:layout_height="40dp"
android:background="@drawable/done_button"
android:layout_below="@+id/remember_me_checkbox"
android:drawableEnd="@drawable/arrow_icon"
android:shadowColor="@color/black"
android:text="@string/done_button"
android:textColor="@color/white"
android:textAlignment="center"
android:textStyle="bold"/>
```

<TextView

```
android:id="@+id/forgotPassword"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="@string/forgot_password"
android:layout_below="@+id/done_button"
android:layout_marginTop="30dp"
android:textColor="@color/white"
android:layout_centerHorizontal="true"
android:textSize="15sp"
android:clickable="true"
android:contextClickable="true"
android:gravity="center"
android:textStyle="bold"/>
```

</RelativeLayout>

</RelativeLayout>

Done button XML

```
<?xml version="1.0" encoding="utf-8"?>

<shape xmlns:android="http://schemas.android.com/apk/res/android"
    android:shape="rectangle">

    <solid android:color="@color/dark_purple"/>

    <corners android:radius="1000dp"/>

    <stroke android:width="1dp" android:color="@color/black"/>

</shape>
```

Inner Layout XML

```
<?xml version="1.0" encoding="utf-8"?>

<shape xmlns:android="http://schemas.android.com/apk/res/android"
    android:shape="rectangle"
    android:innerRadius="50dp"
    android:useLevel="true">

    <gradient android:startColor="@color/inner_blur" android:gradientRadius="100dp" />

    <corners android:radius="30dp"/>

    <stroke android:color="@color/white" android:width="0.1dp"/>

</shape>
```

Color XML

```
<?xml version="1.0" encoding="utf-8"?>

<resources>

    <color name="purple_200">#FFBB86FC</color>

    <color name="purple_500">#FF6200EE</color>

    <color name="purple_700">#FF3700B3</color>

    <color name="teal_200">#FF03DAC5</color>

    <color name="teal_700">#FF018786</color>

    <color name="black">#FF000000</color>

    <color name="white">#FFFFFFFF</color>

    <color name="background">#FF0000</color>
```

```
<color name="inner_blur">#F6FBFA </color>
<color name="inner_blur1">#F1EBEF</color>
<color name="grey_500">#9E9E9E</color>
<color name="dark_purple">#000080</color>
</resources>
```

String XML

```
<resources>


    <string name="app_name">Ques1</string>
    <string name="android_description">This is an Avatar</string>
    <string name="login">Log in</string>
    <string name="sign_up">Sign Up</string>
    <string name="twitter_description">This is twitter button</string>
    <string name="facebook_description">This is facebook button</string>
    <string name="google_description">This is google button</string>
    <string name="or_text_view">or</string>
    <string name="username_email">User name / Email address</string>
    <string name="PassWord">Password</string>
    <string name="remember_me_checkbox">Remember me</string>
    <string name="done_button">DONE</string>
    <string name="forgot_password">Forgot Password ?</string>
    <string name="cannot_be_none">cannot be none</string>
    <string name="username_hint">Less than 40 characters</string>
    <string name="password_hint">Less than 40 characters</string>
</resources>
```

Kotlin

Kotlin in this case is just the default code . So no need to put it here




Screenshot:

21:44:43 0.06 KB/S VoLTE 4G 98%



Log in

Sign Up



or

User name / Email address

Less than 40 characters

Password

Less than 40 characters

☐ Remember me

DONE

>

Forgot Password ?

21:44:46

4.00 KB/S VoLTE 4G 98%



Log in

Sign Up



or

User name / Email address

Less than 40 characters

Password

Less than 40 characters

☐ Remember me

DONE



Forgot Password ?

Problem-2 Solution

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout 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="@color/yellow"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/heading"
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:text="@string/heading"
        android:layout_centerHorizontal="true"
        android:textAlignment="center"
        android:layout_marginTop="50dp"
        android:textSize="20sp"
        android:textColor="@color/red"
        android:textStyle="bold"/>

    <RadioGroup
        android:layout_width="500dp"
        android:layout_height="wrap_content"
        android:id="@+id/radio_group"
        android:layout_marginTop="20dp"
        android:layout_below="@id/heading"
        android:layout_marginStart="50dp"
```

```
android:layout_centerHorizontal="true"  
android:orientation="horizontal">
```

```
<RadioButton
```

```
    android:id="@+id/excellent_button"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/excellent"  
    android:textStyle="bold"  
    android:textColor="@color/red"/>
```

```
<RadioButton
```

```
    android:id="@+id/good_button"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/good"  
    android:textStyle="bold"  
    android:layout_marginStart="10dp"  
    android:textColor="@color/red"/>
```

```
<RadioButton
```

```
    android:id="@+id/okay_button"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/okay"  
    android:textStyle="bold"  
    android:layout_marginStart="10dp"  
    android:textColor="@color/red"/>
```

```
<RadioButton
```

```
    android:id="@+id/poor_button"  
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:layout_marginStart="10dp"
    android:text="@string/poor"
    android:textStyle="bold"
    android:textColor="@color/red"/>
```

```
</RadioGroup>
```

```
<CheckBox
```

```
    android:id="@+id/checkbox_1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/radio_group"
    android:layout_marginStart="30dp"
    android:text="@string/checkbox1"
    android:textColor="@color/black"
    android:textSize="15sp"
    android:textStyle="bold"/>
```

```
<CheckBox
```

```
    android:id="@+id/checkbox_2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/checkbox_1"
    android:layout_marginStart="30dp"
    android:text="@string/checkbox2"
    android:textColor="@color/black"
    android:textSize="15sp"
    android:textStyle="bold"/>
```

```
<CheckBox
```

```
    android:id="@+id/checkbox_3"
    android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:layout_below="@+id/checkbox_2"
android:layout_marginStart="30dp"
android:text="@string/checkbox3"
android:textColor="@color/black"
android:textSize="15sp"
android:textStyle="bold"/>
```

<CheckBox

```
android:id="@+id/checkbox_4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/checkbox_3"
android:layout_marginStart="30dp"
android:text="@string/checkbox4"
android:textColor="@color/black"
android:textSize="15sp"
android:textStyle="bold"/>
```

<TextView

```
android:id="@+id/suggestion_view"
android:layout_width="300dp"
android:layout_height="wrap_content"
android:text="@string/suggestion_label"
android:layout_centerHorizontal="true"
android:textAlignment="center"
android:layout_below="@+id/checkbox_4"
android:layout_marginTop="30dp"
android:textSize="20sp"
android:textColor="@color/red"
android:textStyle="bold"/>
```


<EditText

```
    android:layout_width="match_parent"
    android:layout_margin="10dp"
    android:layout_height="wrap_content"
    android:id="@+id/suggestion_text"
    android:layout_below="@+id/suggestion_view"
    android:layout_centerHorizontal="true"
    android:textColor="@color/black"
    android:hint="@string/suggestion_request"
    android:textAlignment="center"
    android:maxLength="40"
    android:textColorHint="@color/black"
    android:inputType="text"
    android:backgroundTint="@color/black"
    android:autofillHints="@string/suggestion_label" />
```

<Button

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/submit_btn"
    android:text="@string/submit_btn"
    android:layout_below="@+id/suggestion_text"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="20dp"/>
```

<TextView

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/result_view"
    android:layout_below="@+id/submit_btn"
```

```
    android:layout_centerHorizontal="true"
    android:textAlignment="textStart"
    android:textColor="@color/red"
    android:textStyle="bold"
    android:layout_marginTop="10dp"
    android:textSize="20sp"/>
</RelativeLayout>
```

COLOR XML

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="yellow">#FFFF00</color>
    <color name="red">#FF0000</color>
</resources>
```

String XML

```
<resources>
    <string name="app_name">Ques2</string>
    <string name="heading">Rate This Application</string>
    <string name="excellent">EXCELLENT</string>
    <string name="good">GOOD</string>
    <string name="okay">OKAY</string>
    <string name="poor">POOR</string>
```

```
<string name="checkbox1">I really Enjoy the lesson</string>
<string name="checkbox2">I would like to hear more from you</string>
<string name="checkbox3">I am satisfied with the content and full Description</string>
<string name="checkbox4">I will prefer this lesson to else also</string>
<string name="submit_btn">Submit</string>
<string name="suggestion_request">Some suggestion here</string>
<string name="suggestion_label">Any Suggestion</string>
</resources>
```

Kotlin file

```
package sudeep.example.ques2

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.*

class MainActivity : AppCompatActivity() {
    var resultString=StringBuilder()

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        val radioGroup=findViewById<RadioGroup>(R.id.radio_group)
        val checkbox1=findViewById<CheckBox>(R.id.checkbox_1)
        val checkbox2=findViewById<CheckBox>(R.id.checkbox_2)
        val checkbox3=findViewById<CheckBox>(R.id.checkbox_3)
        val checkbox4=findViewById<CheckBox>(R.id.checkbox_4)
        val suggestionText=findViewById<EditText>(R.id.suggestion_text)
        val submitBtn=findViewById<Button>(R.id.submit_btn)
        val resultView=findViewById<TextView>(R.id.result_view)

        radioGroup.setOnCheckedChangeListener { group, checkedId ->
```

```
val radioButton=findViewById<RadioButton>(checkedId)
val output:String=radioButton.text.toString()
Toast.makeText(applicationContext,output,Toast.LENGTH_LONG).show()
}
```

```
checkbox1.setOnCheckedChangeListener { buttonView, isChecked ->
    if (isChecked){
        val checkBoxText:String=checkbox1.text.toString()
```

```
Toast.makeText(applicationContext,checkBoxText,Toast.LENGTH_LONG).show()
    }
}
```

```
checkbox2.setOnCheckedChangeListener { buttonView, isChecked ->
    if(isChecked){
        val checkBoxText:String=checkbox2.text.toString()
```

```
Toast.makeText(applicationContext,checkBoxText,Toast.LENGTH_LONG).show()
    }
}
```

```
checkbox3.setOnCheckedChangeListener { buttonView, isChecked ->
    if(isChecked){
        val checkBoxText:String=checkbox3.text.toString()
```

```
Toast.makeText(applicationContext,checkBoxText,Toast.LENGTH_LONG).show()
    }
}
```

```
checkbox4.setOnCheckedChangeListener { buttonView, isChecked ->
    if(isChecked){
```

```
val checkBoxText:String=checkbox4.text.toString()
```

```
Toast.makeText(applicationContext,checkBoxText,Toast.LENGTH_LONG).show()  
}  
}
```

```
submitBtn.setOnClickListener {  
    val selectID:Int=radioGroup.checkedRadioButtonId  
    val radioButton=findViewById<RadioButton>(selectID)  
    val output:String=radioButton.text.toString()  
    resultString.append("Selected Radio Button : $output")  
    if(checkbox1.isChecked){  
        val checkBoxText:String=checkbox1.text.toString()  
        resultString.append("\nCheckbox 1 Selected : $checkBoxText")  
    }  
    if(checkbox2.isChecked){  
        val checkBoxText:String=checkbox2.text.toString()  
        resultString.append("\nCheckbox 2 Selected : $checkBoxText")  
    }  
    if(checkbox3.isChecked){  
        val checkBoxText:String=checkbox3.text.toString()  
        resultString.append("\nCheckbox 3 Selected : $checkBoxText")  
    }  
    if(checkbox4.isChecked){  
        val checkBoxText:String=checkbox4.text.toString()  
        resultString.append("\nCheckbox 4 Selected : $checkBoxText")  
    }  
    if(suggestionText.text.toString().isEmpty()){  
        resultString.append("\n")  
    }else{  
        val suggestionTextString:String=suggestionText.text.toString()
```

```

        resultString.append("\nSuggestion Text : $suggestionTextString")
    }
    resultView.text=resultString.toString()
    resultString.clear()
}

}

}

```

Screenshots

The screenshot shows a mobile application interface with a purple status bar at the top displaying the time 21:44:01, network speed 23.0 KB/S, LTE B, signal strength, 4G, and 98% battery. Below the status bar is a black header with the text "Ques2". The main content area has a yellow background and contains the following elements:

- Rate This Application**: A section header in red text.
- Rating Options**: Four radio buttons with labels: EXCELLENT, GOOD, OKAY, and POOR.
- Feedback Questions**: Four checkboxes with labels:
 - I really Enjoy the lesson
 - I would like to hear more from you
 - I am satisfied with the content and full Description
 - I will prefer this lesson to else also
- Any Suggestion**: A section header in red text.
- Suggestion Input**: A text input field with the placeholder text "Some suggestion here".
- SUBMIT**: A blue button with white text.

21:44:05

23.0 KB/S VoB LEB 4G 98% 

Ques2

Rate This Application

☒ EXCELLENT ☐ GOOD ☐ OKAY ☐ POOR

- ☐ I really Enjoy the lesson
- ☐ I would like to hear more from you
- ☐ I am satisfied with the content and full Description
- ☐ I will prefer this lesson to else also

Any Suggestion

Some suggestion here

SUBMIT

EXCELLENT

Ques2

Rate This Application

☐ EXCELLENT ☐ GOOD ☐ OKAY ☐ POOR

☒ I really Enjoy the lesson

☐ I would like to hear more from you

☐ I am satisfied with the content and full Description

☐ I will prefer this lesson to else also

Any Suggestion

Some suggestion here

SUBMIT

I really Enjoy the lesson

21:44:34

0.06 KB/S VoB LTEB 4G 98% ⚡

Ques2

Rate This Application

☒ EXCELLENT ☐ GOOD ☐ OKAY ☐ POOR

☐ I really Enjoy the lesson

☒ I would like to hear more from you

☒ I am satisfied with the content and full Description

☐ I will prefer this lesson to else also

Any Suggestion

Great Try 😊

SUBMIT

Selected Radio Button : EXCELLENT

Checkbox 2 Selected : I would like to hear more from you

Checkbox 3 Selected : I am satisfied with the content and full Description

Suggestion Text : Great Try 😊