DINF 0223: MOBILE APPLICATION DEVELOPMENT
PRACTICAL SESSION 2 – 26/05/2025

Question

Consider the following course codes for an Android app that includes a form with text fields, checkboxes, and radio buttons.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:padding="16dp">

        <EditText
            android:id="@+id/nameEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Name" />

        <EditText
            android:id="@+id/emailEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Email" />

        <CheckBox
            android:id="@+id/checkBox1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Checkbox 1" />

        <CheckBox
            android:id="@+id/checkBox2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Checkbox 2" />

        <TextView
            android:id="@+id/genderTextView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Gender"
            android:textSize="18sp"
            android:textStyle="bold"
            android:layout_marginTop="16dp" />

        <RadioGroup
            android:id="@+id/radioGroup"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
```

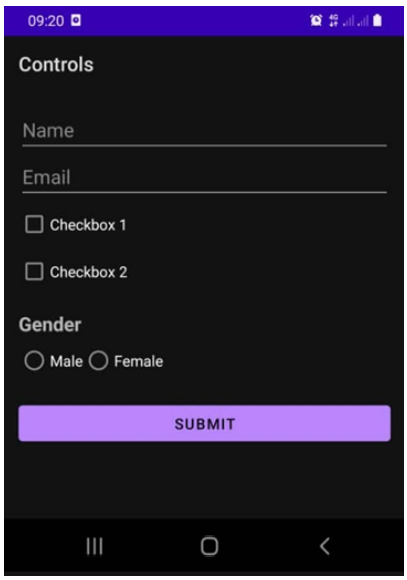
```
            android:orientation="horizontal">

            <RadioButton
                android:id="@+id/maleRadioButton"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Male" />

            <RadioButton
                android:id="@+id/femaleRadioButton"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Female" />

            <RadioButton
                android:id="@+id/otherRadioButton"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Other" />

        </RadioGroup>

        <Button
            android:id="@+id/submitButton"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Submit"
            android:onClick="submitForm"
            android:layout_marginTop="16dp" />

    </LinearLayout>
</ScrollView>
```

MainActivity.java

```
package com.example.controls;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private EditText nameEditText, emailEditText;
    private CheckBox checkBox1, checkBox2;
    private RadioGroup radioGroup;
    private RadioButton radioButton1, radioButton2, radioButton3;
    private Button submitButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        nameEditText = findViewById(R.id.nameEditText);
        emailEditText = findViewById(R.id.emailEditText);
        checkBox1 = findViewById(R.id.checkBox1);
```

```
        checkBox2 = findViewById(R.id.checkBox2);
        radioGroup = findViewById(R.id.radioGroup);
        radioButton1 = findViewById(R.id.maleRadioButton);
        radioButton2 = findViewById(R.id.femaleRadioButton);
        radioButton3 = findViewById(R.id.otherRadioButton);
        submitButton = findViewById(R.id.submitButton);
    }
    public void submitForm(View v) {
        String name = nameEditText.getText().toString();
        String email = emailEditText.getText().toString();
        boolean checked1 = checkBox1.isChecked();
        boolean checked2 = checkBox2.isChecked();
        int radioId = radioGroup.getCheckedRadioButtonId();
        String radioText = "";
        if (radioId == R.id.maleRadioButton) {
            radioText = radioButton1.getText().toString();
        } else if (radioId == R.id.femaleRadioButton) {
            radioText = radioButton2.getText().toString();
        } else if (radioId == R.id.otherRadioButton) {
            radioText = radioButton3.getText().toString();
        }
        String message = "Name: " + name + "\nEmail: " + email + "\nCheckbox 1: " +
checked1 +
                "\nCheckbox 2: " + checked2 + "\nRadio Button: " + radioText;
        Toast.makeText(MainActivity.this, message, Toast.LENGTH_SHORT).show();
    }
}
```

a. Recreate the above application and run it in your physical device. the form should look like shown below. The user clicks submit button. New activity calls "ProfileAcitivity" should be created which display all information submitted from the form.



b. Modify the application above by creating a second activity that will display the data supplied from the form using TextView instead of Toast message

c. Modify the program from the previous practical session 2 by adding the method " isFormComplete() ". The " isFormComplete()" checks if the form is complete and all required fields are filled in. Display an error message if any field is left blank.

isFormComplete()

```
public boolean isFormComplete() {

    boolean isNameFilled = !nameEditText.getText().toString().isEmpty();
    boolean isEmailFilled = !emailEditText.getText().toString().isEmpty();
    boolean isCheckBox1Checked = checkBox1.isChecked();
    boolean isCheckBox2Checked = checkBox2.isChecked();
    boolean isRadioGroupSelected = radioGroup.getCheckedRadioButtonId() != -1;

    if (!isNameFilled || !isEmailFilled || !isCheckBox1Checked ||
!isCheckBox2Checked || !isRadioGroupSelected) {

        return false;
    }

    return true;
}
```

The application should display the details in second activity only when all the required fields are filled.

```
if(isFormComplete()){

// write the code to go to second activity

}else{
// Write the code to Display an error message if any required field is left
blank.

}
```