



# **Experiment - 5**

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Branch: BE - CSE Section/Group: 603/A Semester: 6<sup>th</sup> semester Subject: MAD LAB

#### Aim:

Create an Android App using various controls such TexEdit, CheckBox, RadioButton, RadioGroup, etc.

### **Objectives:**

To install and run applications on Android Studio, we will require Android Studio, Android SDK, Android Virtual Device (AVD) Manager, Gradle and (JDK).

## **Procedure and Steps:**

- 1. Open Android Studio and create a new project.
- 2. Choose a project name, package name, and choose "Empty Activity" as the template for your project.
- 3. In the layout file (activity\_main.xml), write the designing part of the application i.e., frontend UI design.
- 4. In the java file (MainActivity.java), write the code used for the functionality of the app.

## 1. App with Checkbox:

CheckBox belongs to android.widget.CheckBox class. Android CheckBox class is the subclass of CompoundButton class. It is generally used in a place where user can select one or more than choices from a given list of choices. For example, selecting hobbies.

public class CheckBox extends CompoundButton

#### (activity main.xml) code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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="#ffffff"
    android:orientation="vertical">
```

```
<TextView
  android:id="@+id/textView"
  android:layout width="match parent"
  android:layout_height="wrap_content"
  android:layout_marginStart="8dp"
  android:layout_marginTop="48dp"
  android:layout_marginEnd="8dp"
  android:text="Choose your hobbies:"
  android:textSize="24sp"
  app:layout_constraintEnd_toEndOf="parent"
  app:layout constraintStart toStartOf="parent"
  app:layout_constraintTop_toTopOf="parent"/>
<CheckBox
  android:id="@+id/checkBox"
  android:layout width="match parent"
  android:layout_height="wrap_content"
  android:layout marginTop="16dp"
  android:text="Music"
  android:textSize="18sp">
</CheckBox>
<CheckBox
  android:id="@+id/checkBox2"
  android:layout_width="match_parent"
  android:layout_height="wrap_content"
  android:layout_marginTop="16dp"
  android:text="Reading"
  android:textSize="18sp">
</CheckBox>
<CheckBox
  android:id="@+id/checkBox3"
  android:layout_width="match_parent"
  android:layout_height="wrap_content"
  android:layout_marginTop="16dp"
  android:text="Cricket"
  android:textSize="18sp"
  app:layout_constraintTop_toTopOf="@+id/textView"
  tools:layout_editor_absoluteX="382dp">
</CheckBox>
<CheckBox
  android:id="@+id/checkBox4"
  android:layout_width="match_parent"
  android:layout_height="wrap_content"
  android:layout_marginTop="16dp"
  android:text="Travelling"
  android:textSize="18sp"
  app:layout_constraintTop_toBottomOf="@+id/checkBox"
  tools:layout_editor_absoluteX="386dp">
</CheckBox>
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```

```
<Button

android:id="@+id/button"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:layout_marginTop="16dp"

android:onClick="Check"

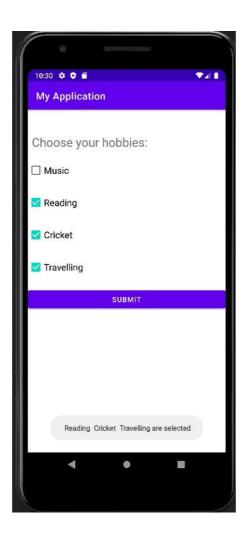
android:text="submit"/>

</LinearLayout>
```

```
MainActivity.java Code:
package com.abhimanyu.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.CheckBox;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  CheckBox ch, ch1, ch2, ch3;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    ch=(CheckBox)findViewById(R.id.checkBox);
    ch1=(CheckBox)findViewById(R.id.checkBox2);
    ch2=(CheckBox)findViewById(R.id.checkBox3);
    ch3=(CheckBox)findViewById(R.id.checkBox4);
  public void Check(View v)
    String msg="";
    if(ch.isChecked())
      msg = msg + " Music ";
    if(ch1.isChecked())
      msg = msg + "Reading";
    if(ch2.isChecked())
       msg = msg + "Cricket";
    if(ch3.isChecked())
      msg = msg + " Travelling ";
    Toast.makeText(this, msg + "are selected",
         Toast.LENGTH_LONG).show();
}
```

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# **Output:**



## 2. App with Radio Buttons:

Android radio button is a widget that can have more than one option to choose from. The user can choose only one option at a time. Each option here refers to a radio button and all the options for the topic are together referred to as Radio Group. Hence, Radio Buttons are used inside a RadioGroup.

### (activity main.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"
  tools:context=".MainActivity">
  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Select your Subject ?"
    android:textStyle="bold"
    and roid: layout\_marginLeft = "10 dp"
    android:textSize="20sp"/>
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```

```
<RadioGroup
  android:layout_marginTop="50dp"
  android:id="@+id/groupradio"
  android:layout_marginLeft="10dp"
  android:layout width="fill parent"
  android:layout height="wrap content">
  <RadioButton
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/radia_id1"
    android:text="Mobile App Development"
    android:textSize="20sp"/>
  <RadioButton
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/radia_id2"
    android:text="Internet of Things"
    android:textSize="20sp"/>
  <RadioButton
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/radia_id3"
    android:text="Discrete Mathematics"
    android:textSize="20sp"/>
  <RadioButton
    android:id="@+id/radia_id4"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Theory of Computation"
    android:textSize="20sp" />
  <RadioButton
    android:id="@+id/radia id5"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Information Security and Cryptography"
    android:textSize="20sp" />
  < Radio Button
    android:id="@+id/radia_id6"
    android:layout width="fill parent"
    android:layout_height="wrap_content"
    android:text="Web programming Using .Net"
    android:textSize="20sp" />
</RadioGroup>
<Button
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:text="Submit"
  android:id="@+id/submit"
  android:textStyle="bold"
  android:textSize="20sp"
  android:layout_marginTop="400dp"
  android:layout_marginLeft="180dp"
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```

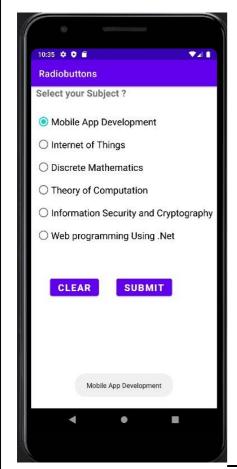
```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Clear"
    android:id="@+id/clear"
    android:textSize="20sp"
    android:textStyle="bold"
    android:layout_marginTop="400dp"
    android:layout_marginLeft="40dp"
    />
</RelativeLayout>
```

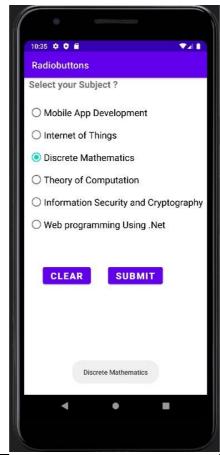
### **MainActivity.java Code:**

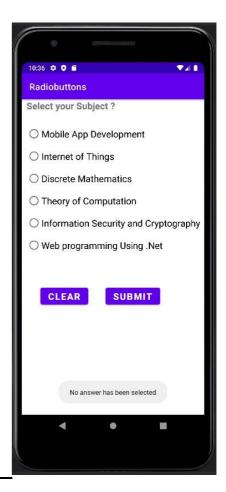
```
package com.abhimanyu.radiobuttons;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  private RadioGroup radioGroup;
  Button submit, clear:
  @Override
  protected void onCreate(Bundle savedInstanceState)
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    submit = (Button)findViewById(R.id.submit);
    clear = (Button)findViewById(R.id.clear);
    radioGroup = (RadioGroup)findViewById(R.id.groupradio);
    radioGroup.clearCheck();
    radioGroup.setOnCheckedChangeListener(
         new RadioGroup
              .OnCheckedChangeListener() {
            @Override
           public void onCheckedChanged(RadioGroup group,
                            int checkedId)
             RadioButton
                  radioButton
                  = (RadioButton)group
                  .findViewById(checkedId);
         });
    submit.setOnClickListener(new View.OnClickListener() {
       @Override
      public void onClick(View v)
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```

```
int selectedId = radioGroup.getCheckedRadioButtonId();
         if (selectedId == -1) {
           Toast.makeText(MainActivity.this,
                     "No answer has been selected",
                     Toast.LENGTH_SHORT)
                .show();
         else {
           RadioButton radioButton
                = (RadioButton)radioGroup
                .findViewById(selectedId);
           Toast.makeText(MainActivity.this,
                     radioButton.getText(),
                     Toast.LENGTH_SHORT)
                .show();
         }
       }
    });
    clear.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v)
         radioGroup.clearCheck();
    });
  }
}
```

## **Output:**







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