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Experiment No. - 5

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Branch: BE-CSE(LEET)   **Section/Group:20BCS-ST-801/B**
Semester: 6th   **Date of Performance: 14/02/2023**
Subject Name: Mobile Application Development Lab   **Subject Code: 20CSP-356**

1. **Aim:**

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

2. **Objective:**

   Understanding and analyze the specific requirement, possibilities and challenges when developing for a mobile application context.

3. **System Requirements:**
   - Microsoft Windows 7/8/10 (32-bit or 64-bit)
   - 4 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator)
   - 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE plus 1.5 GB for Android SDK and emulator system image)
   - 1280 x 800 minimum screen resolution
   - Java JDK5 or later version
   - Java Runtime Environment (JRE) 6 or higher.

4. **Steps/Program:**

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:padding="16dp"
   tools:context=".MainActivity">

   <EditText
      android:id="@+id/editText"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Enter some text" />

   <CheckBox
      android:id="@+id/checkBox"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
```

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```xml
            android:text="Student" />

    <RadioGroup
        android:id="@+id/radio_group"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <RadioButton
            android:id="@+id/radioButton1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Male" />

        <RadioButton
            android:id="@+id/radioButton2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Female" />

    </RadioGroup>

    <Button
        android:id="@+id/okButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textAllCaps="false"
        android:text="Submit"/>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center">

        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textStyle="bold"
            android:textAppearance="?android:textAppearanceLarge" />
    </LinearLayout>

</LinearLayout>
```

MainActivity.java

package in.innovateria.ws5application;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    private EditText editText;
    private CheckBox checkBox;
    RadioGroup radioGroup;
    String check,gender;
    TextView textView;
    Button okButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        editText = findViewById(R.id.editText);
        checkBox = findViewById(R.id.checkBox);
        radioGroup = findViewById(R.id.radio_group);
        textView = findViewById(R.id.textView);

      okButton = findViewById(R.id.okButton);

      checkBox.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
          if (isChecked) {
            check=checkBox.getText().toString().trim();
          } else {
            check="No "+checkBox.getText().toString().trim();
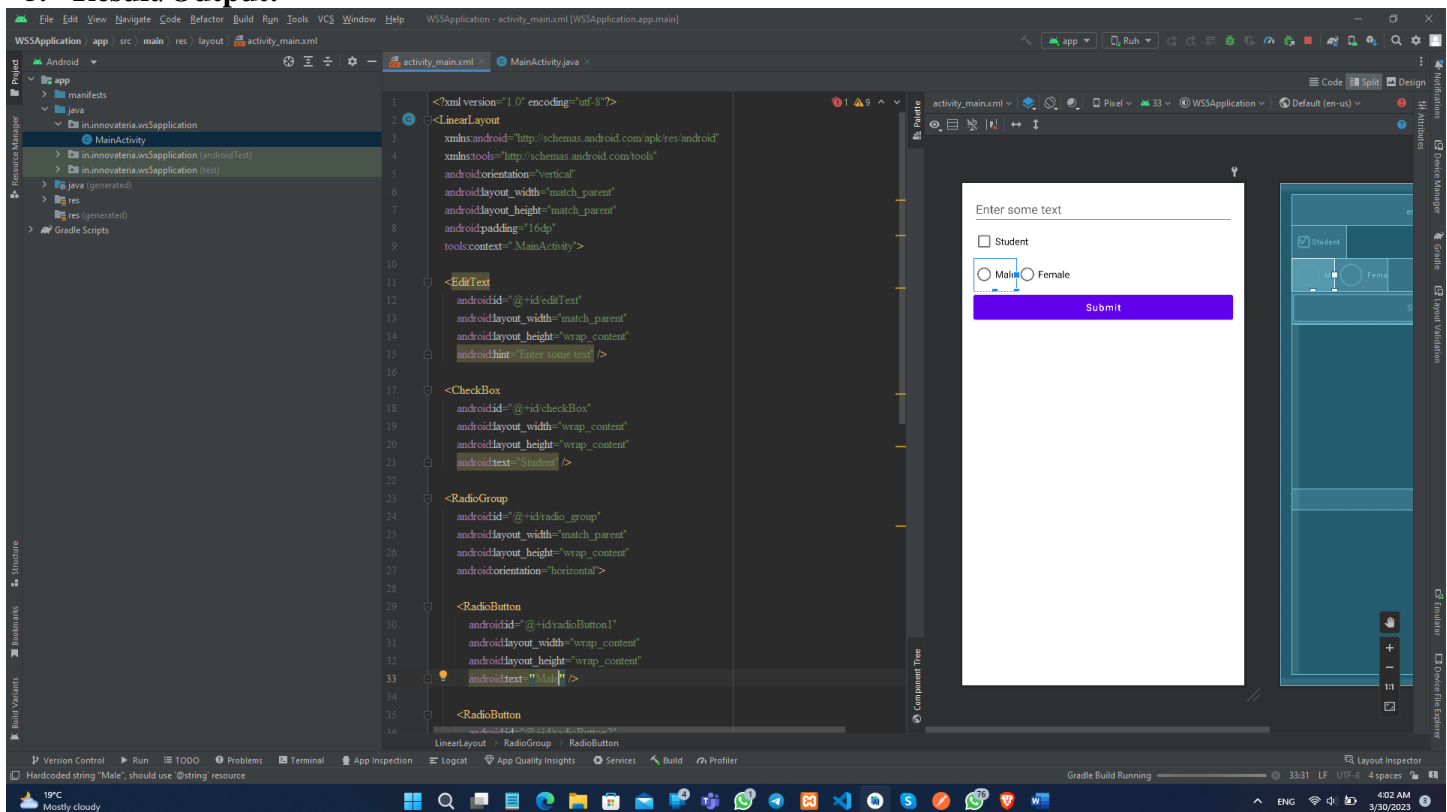   }
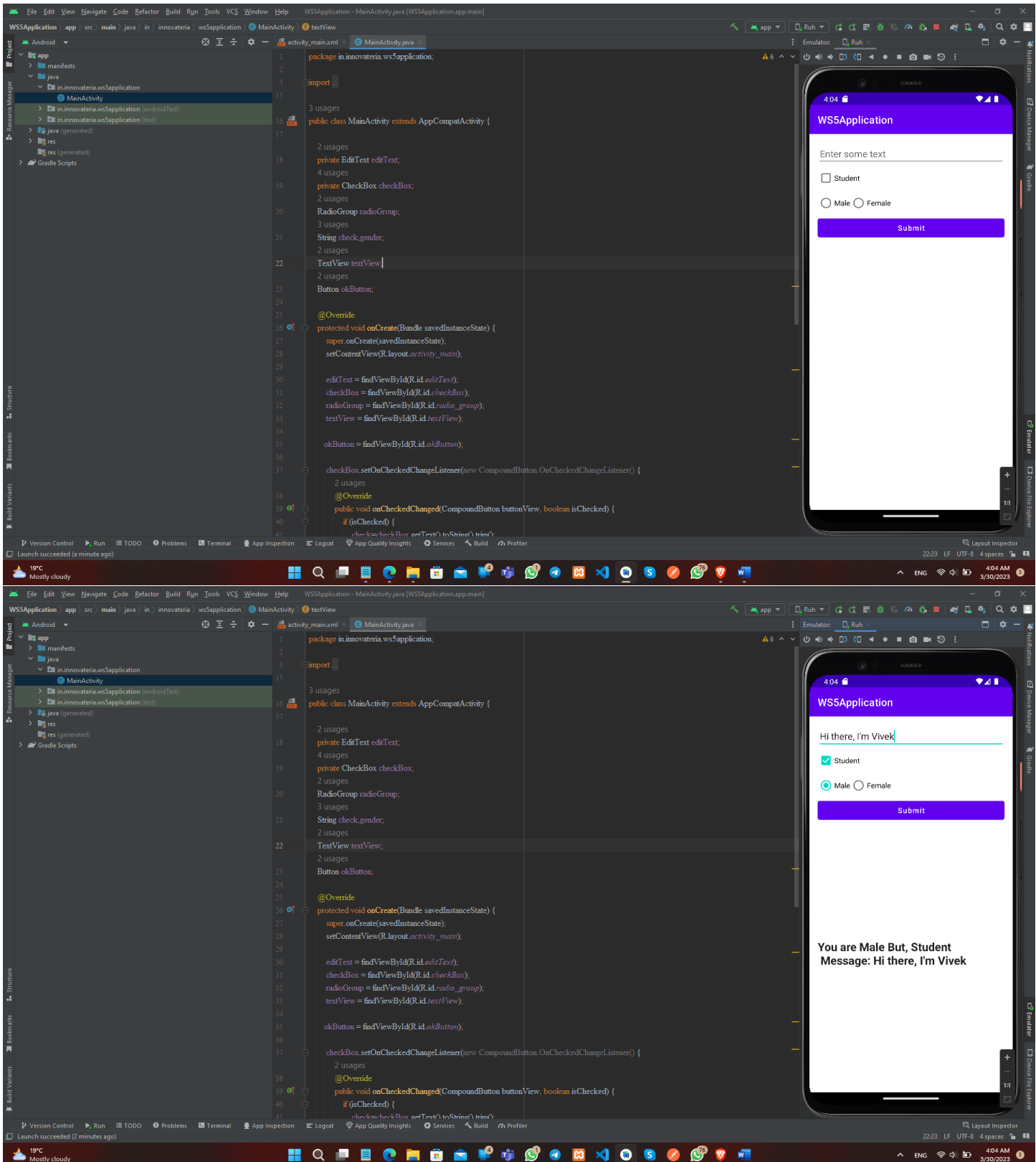   }
      });

```
radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(RadioGroup group, int checkedId) {
        // Do something when a RadioButton is checked
        RadioButton radioButton = findViewById(checkedId);
        gender = radioButton.getText().toString();
        Toast.makeText(MainActivity.this, "You selected " + gender, Toast.LENGTH_SHORT).show();
    }
});

    okButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String text = editText.getText().toString();
            textView.setText("You are " +gender+ " But, "+check+"\n Message: "+text);
        }
    });
  }
}
```

5. Result/Output:

Learning outcomes (What I have learnt):

- To design an android application which uses widget in android studio.

- Learnt about running application on android studio.
- Creating Application by Implementing Checkbox, RadioButton and EditText.

Evaluation Grid (To be created per the faculty's SOP and Assessment guidelines):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Worksheet completion including writing learning objectives/Outcomes. (To be submitted at the end of the day).		
2.	Post-Lab Quiz Result.		
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		
	Signature of Faculty (with Date):	Total Marks Obtained:	