Centurion University
Shaping Lives... Empowering Communities...

School: ..... Campus: .....

Academic Year: ..... Subject Name: ..... Subject Code: .....

Semester: ..... Program: ..... Branch: ..... Specialization: .....

Date: .....

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiement :

Coding Phase: Pseudo Code / Flow Chart / Algorithm

Open Android Studio

- Launch Android Studio and open your project or create a new one.

Create or Edit the XML Layout File

- In your project's res/layout folder, create or modify an XML file.
- Add a **RadioGroup** containing multiple **RadioButton** options.
- Add a **Button** that will trigger the Alert Dialog.

Go to the Corresponding Activity/Fragment

- Navigate to the .java or .kt file linked to your layout.

Initialize UI Components in Code

- Use findViewById() to reference the RadioGroup and Button.

Set an OnClickListener for the Button

- Inside the listener, get the selected RadioButton from the RadioGroup.
- Display the selected option in an **Alert Dialog**.

Create the AlertDialog Builder

- Instantiate AlertDialog.Builder within the onClick method.
- Set the **title**, **message** (showing the selected option), and **positive/negative buttons** for user interaction.

Handle Dialog Button Clicks

- In .setPositiveButton(), define the action (e.g., confirm selection).
- In .setNegativeButton(), define the action (e.g., dismiss the dialog).

Show the Dialog

- Call .show() on the AlertDialog.Builder instance to display the dialog.

Test the Application

- Build and run your project.

Testing Phase: Compilation of Code (error detection)

There is no error.

Implementation Phase: Final Output(no error)

Step 1: Design the Layout

- Open `activity_main.xml` from the **res → layout** folder.
- Drag a **Button** from the **Palette** to the design view.

activity_main.xml | MainActivity.java | AndroidManifest.xml | styles.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="fill_parent"
    android:background="#00BCD4"
    tools:context=".MainActivity">

    <RadioGroup
        android:id="@+id/hlo"
        android:layout_width="302dp"
        android:layout_height="190dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.386"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <RadioButton
            android:id="@+id/radioButton"
            android:layout_width="164dp"
            android:layout_height="57dp"
            android:text="Cricket" />
```

Configuring styles.xml (For Custom Theme/Style)
Location: res → values → styles.xml

activity_main.xml | MainActivity.java | AndroidManifest.xml | styles.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">

    <!-- Base application theme -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here -->
        <item name="colorPrimary">#3F51B5</item>
        <item name="colorPrimaryDark">#303F9F</item>
        <item name="colorAccent">#FF4081</item>
    </style>

</resources>
```

Implementation Phase: Final Output(no error)

Open AndroidManifest.xml in the app → src → main folder.
add android:exported="true" to the activity tag with an intent filter.

activity_main.xml | MainActivity.java | AndroidManifest.xml | styles.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.radiobutton">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity" android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Configuring Mainactivity.java

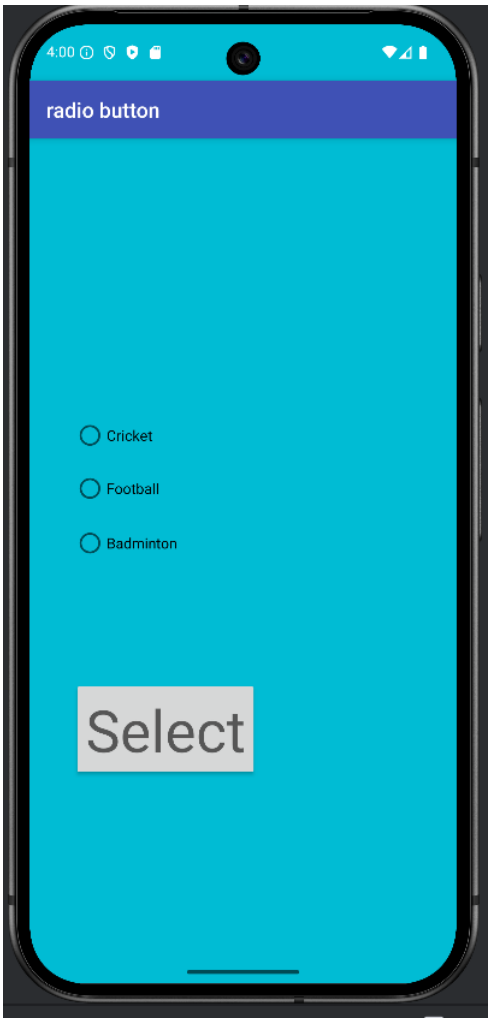
activity_main.xml | MainActivity.java | AndroidManifest.xml | styles.xml

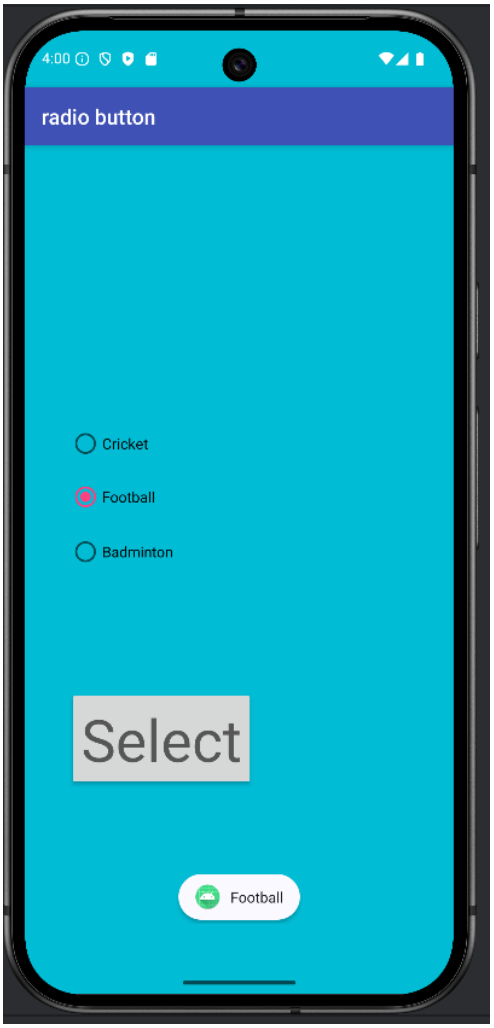
```
public class MainActivity extends AppCompatActivity {
    2 usages
    private static RadioGroup rg;
    2 usages
    private static RadioButton rb;
    2 usages
    private static Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        m1();
    }
    1 usage
    public void m1()
    {
        rg=(RadioGroup)findViewById(R.id.hlo);
        btn=(Button)findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int res=rg.getCheckedRadioButtonId();
                rb=(RadioButton)findViewById(res);
                Toast.makeText( context: MainActivity.this,rb.getText().toString(),Toast.LENGTH_

            }
```

Click **Run** .





ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	**50**		

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty: