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Q.3 Develop an Android App for Unit Conversion?
MainActivity.java
package com.example.basicarithmeticoperation;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  EditText inputNumber;
  Spinner conversionType;
  Button convertButton;
  TextView resultText;
  String[] conversionOptions = {
      "Meters to Kilometers",
      "Celsius to Fahrenheit",
      "Kilograms to Grams",
      "Miles to Kilometers"
  };
  @SuppressLint("MissingInflatedId")
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    inputNumber = findViewById(R.id.inputNumber);
    conversionType = findViewById(R.id.conversionType);
    convertButton = findViewById(R.id.convertButton);
    resultText = findViewById(R.id.resultText);
    // Populate Spinner with conversion options
    ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_spinner_item, conversionOptions);
    adapter.setDropDownViewResource(android.R.layout.simple spinner dropdown item);
    conversionType.setAdapter(adapter);
    convertButton.setOnClickListener(new View.OnClickListener() {
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}

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@Override
      public void onClick(View v) {
         convertValue();
      }
    });
  private void convertValue() {
    String inputStr = inputNumber.getText().toString();
    if (inputStr.isEmpty()) {
      Toast.makeText(this, "Please enter a number", Toast.LENGTH_SHORT).show();
      return;
    }
    double inputValue = Double.parseDouble(inputStr);
    int selectedPosition = conversionType.getSelectedItemPosition();
    double result = 0;
    String unit = "";
    switch (selectedPosition) {
      case 0: // Meters to Kilometers
         result = inputValue / 1000;
         unit = " km";
         break;
      case 1: // Celsius to Fahrenheit
         result = (inputValue * 9/5) + 32;
         unit = " °F";
         break;
      case 2: // Kilograms to Grams
         result = inputValue * 1000;
         unit = " g";
         break;
      case 3: // Miles to Kilometers
         result = inputValue * 1.60934;
         unit = " km";
         break;
    }
    resultText.setText("Converted Value: " + result + unit);
  }
activity_main.xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:orientation="vertical"
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android:padding="20dp" android:gravity="center">

<EditText

android:id="@+id/inputNumber"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Enter value"
android:inputType="numberDecimal" />

<Spinner

android:id="@+id/conversionType"
android:layout_width="match_parent"
android:layout_height="wrap_content" />

<Button

android:id="@+id/convertButton" android:layout_width="match_parent" android:layout_height="wrap_content" android:text="Convert"/>

<TextView

android:id="@+id/resultText"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Converted Value: "
android:textSize="18sp"
android:paddingTop="10dp" />

</LinearLayout>



