Slip no – 5

Q1. Create an Android Application to accept two numbers and find power and Average. Display the result on the next activity on Button click.

* Open your AndroidManifest.xml file and add the ResultActivity declaration within code.

<application

<!-- Other application configurations -->

<activity android:name=".ResultActivity"/>

</application>

activity\_main.xml

<RelativeLayout *xmlns:android*="http://schemas.android.com/apk/res/android"  
 *xmlns:tools*="http://schemas.android.com/tools"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="match\_parent"  
 *tools:context*=".MainActivity">  
   
 <EditText  
 *android:id*="@+id/number1EditText"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_alignParentStart*="true"  
 *android:layout\_alignParentEnd*="true"  
 *android:layout\_marginStart*="115dp"  
 *android:layout\_marginTop*="50dp"  
 *android:layout\_marginEnd*="146dp"  
 *android:hint*="Enter first number"  
 *android:inputType*="numberDecimal" />  
  
 <EditText  
 *android:id*="@+id/number2EditText"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_below*="@id/number1EditText"  
 *android:layout\_alignParentStart*="true"  
 *android:layout\_alignParentEnd*="true"  
 *android:layout\_marginStart*="114dp"  
 *android:layout\_marginTop*="20dp"  
 *android:layout\_marginEnd*="120dp"  
 *android:hint*="Enter second number"  
 *android:inputType*="numberDecimal" />  
  
 <Button  
 *android:id*="@+id/calculateButton"  
 *android:layout\_width*="142dp"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_below*="@id/number2EditText"  
 *android:layout\_alignParentStart*="true"  
 *android:layout\_alignParentEnd*="true"  
 *android:layout\_marginStart*="116dp"  
 *android:layout\_marginTop*="40dp"  
 *android:layout\_marginEnd*="153dp"  
 *android:onClick*="calculateAndShowResult"  
 *android:text*="Calculate" />  
  
  
</RelativeLayout>

MainActivity.java

*package* com.example.activitylifecycle;  
  
*import* android.content.Intent;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.EditText;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*public class* MainActivity *extends* AppCompatActivity {  
  
 *private* EditText number1EditText, number2EditText;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 number1EditText = findViewById(R.id.*number1EditText*);  
 number2EditText = findViewById(R.id.*number2EditText*);  
 }  
  
 *public void* calculateAndShowResult(View view) {  
 *double* num1 = Double.*parseDouble*(number1EditText.getText().toString());  
 *double* num2 = Double.*parseDouble*(number2EditText.getText().toString());  
  
 *double* power = Math.*pow*(num1, num2);  
 *double* average = (num1 + num2) / 2.0;  
  
 Intent intent = *new* Intent(MainActivity.*this*, ResultActivity.*class*);  
 intent.putExtra("power", power);  
 intent.putExtra("average", average);  
 startActivity(intent);  
 }  
}

ResultActivity.java

*package* com.example.activitylifecycle;  
*import* android.content.Intent;  
*import* android.os.Bundle;  
*import* android.widget.TextView;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*public class* ResultActivity *extends* AppCompatActivity {  
  
 *private* TextView powerTextView, averageTextView;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_result*);  
  
 powerTextView = findViewById(R.id.*powerTextView*);  
 averageTextView = findViewById(R.id.*averageTextView*);  
  
 Intent intent = getIntent();  
 *double* power = intent.getDoubleExtra("power", 0);  
 *double* average = intent.getDoubleExtra("average", 0);  
  
 powerTextView.setText("Power: " + power);  
 averageTextView.setText("Average: " + average);  
 }  
}

activity\_result.xml

<RelativeLayout *xmlns:android*="http://schemas.android.com/apk/res/android"  
 *xmlns:tools*="http://schemas.android.com/tools"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="match\_parent"  
 *tools:context*=".ResultActivity">  
  
 <TextView  
 *android:id*="@+id/powerTextView"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Power:"  
 *android:textSize*="20sp"  
 *android:layout\_marginTop*="50dp"/>  
  
 <TextView  
 *android:id*="@+id/averageTextView"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Average:"  
 *android:textSize*="20sp"  
 *android:layout\_below*="@id/powerTextView"  
 *android:layout\_marginTop*="20dp"/>  
  
</RelativeLayout>

Q2. Create an Android application that creates a custom Alert Dialog containing Friends Name and onClick of Friend Name Button greet accordingly.

activity\_main.xml

<LinearLayout *xmlns:android*="http://schemas.android.com/apk/res/android"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:orientation*="vertical"  
 *android:padding*="16dp">  
  
 <TextView  
 *android:id*="@+id/text\_friend\_name"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:textSize*="18sp"  
 *android:textColor*="@android:color/black"  
 *android:textStyle*="bold"  
 *android:layout\_marginBottom*="8dp" />  
  
 <Button  
 *android:id*="@+id/button\_greet"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Greet"  
 *android:onClick*="onGreetButtonClick" />  
</LinearLayout>

MainActivity.java

*package* com.example.slipno5;  
  
*import* android.os.Bundle;  
*import* android.view.LayoutInflater;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.TextView;  
*import* android.widget.Toast;  
*import* androidx.appcompat.app.AlertDialog;  
*import* androidx.appcompat.app.AppCompatActivity;  
*public class* MainActivity *extends* AppCompatActivity {  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 *// Show the custom AlertDialog* showCustomDialog();  
 }  
  
 *private void* showCustomDialog() {  
 *// Prepare the LayoutInflater to inflate the custom layout* LayoutInflater inflater = LayoutInflater.*from*(*this*);  
 View dialogView = inflater.inflate(R.layout.*activity\_main*, *null*);  
  
 *// Create AlertDialog builder and set the custom layout* AlertDialog.Builder builder = *new* AlertDialog.Builder(*this*);  
 builder.setView(dialogView);  
  
 *// Set friend's name* TextView friendNameTextView = dialogView.findViewById(R.id.*text\_friend\_name*);  
 friendNameTextView.setText("ABC");  
  
 *// Set button click listener to greet the friend* Button greetButton = dialogView.findViewById(R.id.*button\_greet*);  
 greetButton.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View v) {  
 greetFriend("ABC");  
 }  
 });  
  
 *// Create and show the AlertDialog* AlertDialog dialog = builder.create();  
 dialog.show();  
 }  
  
 *// Method to greet the friend  
 private void* greetFriend(String friendName) {  
 *// Display a toast message or perform any other action to greet the friend  
 // For simplicity, we'll just display a toast message  
 // You can replace this with your desired greeting logic* String greetingMessage = "Hello, " + friendName + "!";  
 Toast.*makeText*(*this*, greetingMessage, Toast.***LENGTH\_SHORT***).show();  
 }  
}