Slip 1:

10 marks:

Q1. Create a Simple Application which shows the Life Cycle of Activity.

Activity\_main.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:id="@+id/main"  
 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="Activity life cycle"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog1;  
  
import android.os.Bundle;  
import android.util.Log;  
import androidx.appcompat.app.AppCompatActivity;  
  
 public class MainActivity extends AppCompatActivity {  
  
 // Define a tag for logging  
 private static final String *TAG* = "LifecycleExample";  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Log.*d*(*TAG*, "onCreate: Called");  
 }  
  
 @Override  
 protected void onStart() {  
 super.onStart();  
 Log.*d*(*TAG*, "onStart: Called");  
 }  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 Log.*d*(*TAG*, "onResume: Called");  
 }  
  
 @Override  
 protected void onPause() {  
 super.onPause();  
 Log.*d*(*TAG*, "onPause: Called");  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 Log.*d*(*TAG*, "onStop: Called");  
 }  
  
 @Override  
 protected void onRestart() {  
 super.onRestart();  
 Log.*d*(*TAG*, "onRestart: Called");  
 }  
  
 @Override  
 protected void onDestroy() {  
 super.onDestroy();  
 Log.*d*(*TAG*, "onDestroy: Called");  
 }  
 }

20 marks:

Q2. Create an Android Application that demonstrate DatePicker and DatePickerDailog.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
  
 <!-- DatePicker widget to select date directly -->  
  
 <TextView  
 android:id="@+id/textViewSelectedDate"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_above="@+id/buttonShowDatePickerDialog"  
 android:layout\_alignParentTop="true"  
 android:layout\_centerHorizontal="true"  
 android:text="Selected Date: "  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.547"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.909" />  
  
 <Button  
 android:id="@+id/buttonShowDatePickerDialog"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentStart="true"  
 android:layout\_alignParentTop="true"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:text="Show Date Picker Dialog"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.567"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.058" />  
  
 <DatePicker  
 android:id="@+id/datePicker"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/buttonShowDatePickerDialog"  
 android:layout\_alignParentStart="true"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.737"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.454" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog4;  
  
  
import android.app.DatePickerDialog;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.DatePicker;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.Calendar;  
  
public class MainActivity extends AppCompatActivity {  
  
 private TextView textViewSelectedDate;  
 private Button buttonShowDatePickerDialog;  
 private DatePicker datePicker;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 textViewSelectedDate = findViewById(R.id.*textViewSelectedDate*);  
 buttonShowDatePickerDialog = findViewById(R.id.*buttonShowDatePickerDialog*);  
 datePicker = findViewById(R.id.*datePicker*);  
  
 // Set the initial date in the TextView when the app starts  
 updateDateTextView(datePicker.getYear(), datePicker.getMonth(), datePicker.getDayOfMonth());  
  
 // Set listener to show DatePickerDialog when the button is clicked  
 buttonShowDatePickerDialog.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Get the current date  
 Calendar calendar = Calendar.*getInstance*();  
 int year = calendar.get(Calendar.*YEAR*);  
 int month = calendar.get(Calendar.*MONTH*);  
 int day = calendar.get(Calendar.*DAY\_OF\_MONTH*);  
  
 // Show the DatePickerDialog  
 new DatePickerDialog(MainActivity.this, new DatePickerDialog.OnDateSetListener() {  
 @Override  
 public void onDateSet(DatePicker view, int year, int monthOfYear, int dayOfMonth) {  
 // Update the TextView with the selected date from DatePickerDialog  
 updateDateTextView(year, monthOfYear, dayOfMonth);  
 }  
 }, year, month, day).show();  
 }  
 });  
  
 // Set listener for DatePicker to update the TextView when the user selects a date  
 datePicker.init(datePicker.getYear(), datePicker.getMonth(), datePicker.getDayOfMonth(),  
 new DatePicker.OnDateChangedListener() {  
 @Override  
 public void onDateChanged(DatePicker view, int year, int monthOfYear, int dayOfMonth) {  
 // Update the TextView with the selected date from DatePicker widget  
 updateDateTextView(year, monthOfYear, dayOfMonth);  
 }  
 });  
 }  
  
 // Helper method to update the TextView with the selected date  
 private void updateDateTextView(int year, int month, int day) {  
 // Month is 0-based, so we add 1 to display the correct month number  
 String selectedDate = "Selected Date: " + (month + 1) + "/" + day + "/" + year;  
 textViewSelectedDate.setText(selectedDate);  
 }  
}

slip:2

10 marks:

Q1. Create a Simple Application, which reads a positive number from the user and display its factorial value in another activity.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <!-- Button to calculate and go to the next activity -->  
  
 <EditText  
 android:id="@+id/editTextNumber"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerHorizontal="true"  
 android:hint="Enter a positive number"  
 android:inputType="number"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.564"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.351" />  
  
 <Button  
 android:id="@+id/buttonCalculate"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/editTextNumber"  
 android:layout\_centerHorizontal="true"  
 android:text="Calculate Factorial"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.559"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.642" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog5;  
  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText editTextNumber;  
 private Button buttonCalculate;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 editTextNumber = findViewById(R.id.*editTextNumber*);  
 buttonCalculate = findViewById(R.id.*buttonCalculate*);  
  
 buttonCalculate.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String input = editTextNumber.getText().toString().trim();  
 if (input.isEmpty()) {  
 Toast.*makeText*(MainActivity.this, "Please enter a positive number", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 int number = Integer.*parseInt*(input);  
  
 // Check if the number is positive  
 if (number < 0) {  
 Toast.*makeText*(MainActivity.this, "Please enter a positive number", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 // Create an Intent to go to FactorialActivity  
 Intent intent = new Intent(MainActivity.this, FactorialActivity.class);  
 intent.putExtra("number", number); // Pass the number to the next activity  
 startActivity(intent);  
 }  
 });  
 }  
}

activity\_factorial.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".FactorialActivity">  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="212dp"  
 android:layout\_height="161dp"  
 android:text="Factorial"  
 android:textSize="14sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

FactorialActivity.java:

package com.example.prog5;  
  
import android.os.Bundle;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class FactorialActivity extends AppCompatActivity {  
  
 private TextView textViewFactorial;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_factorial*);  
  
 textViewFactorial = findViewById(R.id.*textView2*);  
  
 // Get the number from the Intent  
 int number = getIntent().getIntExtra("number", 0);  
  
 // Calculate the factorial  
 long factorial = calculateFactorial(number);  
  
 // Display the factorial result  
 textViewFactorial.setText("Factorial: " + factorial);  
 }  
  
 // Method to calculate factorial  
 private long calculateFactorial(int number) {  
 long result = 1;  
 for (int i = 1; i <= number; i++) {  
 result \*= i;  
 }  
 return result;  
 }  
}

20 Marks:

Q2. Create an Android application that plays an audio(song) in the background. Audio will notbe stopped even if you switch to another activity. To stop the audio, you need to stop the service.

OR

Q2. Create an Android Application to display satellite view of current location using Google Map.

Slip 3:

10 marks:

Q1. Create an Android Application that will change color of the College Name on click ofPush Button and change the font size, font style of text view using xml.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textview"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="College Name"  
 android:textSize="48sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.216" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Push"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.541" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog6;  
  
  
import android.graphics.Color;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private TextView collegeName; // Reference to the TextView  
 private Button changeStyleButton; // Reference to the Button  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize the TextView and Button from the layout  
 collegeName = findViewById(R.id.*textview*);  
 changeStyleButton = findViewById(R.id.*button*);  
  
 // Set a click listener on the button  
 changeStyleButton.setOnClickListener(v -> {  
 // Change the color of the text to red  
 collegeName.setTextColor(Color.*RED*);  
 // Change the font size to 30sp  
 collegeName.setTextSize(30);  
  
 // Change the font style to italic  
 collegeName.setTypeface(null, android.graphics.Typeface.*ITALIC*);  
 });  
 }  
}

20 marks:

Q2. Create an Android Application to find the factorial of a number and Display the Resulton Alert Box.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Enter the number:"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.576"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.154" />  
  
 <EditText  
 android:id="@+id/editTextText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.582"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.352" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Calculate"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.536"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.647" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog7;  
  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText numberInput; // To input the number  
 private Button calculateButton; // Button to trigger calculation  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize views  
 numberInput = findViewById(R.id.*editTextText*);  
 calculateButton = findViewById(R.id.*button*);  
  
 // Set up button click listener  
 calculateButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Get the input number as a string  
 String inputText = numberInput.getText().toString();  
  
 if (inputText.isEmpty()) {  
 // If input is empty, show a toast message  
 Toast.*makeText*(MainActivity.this, "Please enter a number", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 // Convert input to integer  
 int number = Integer.*parseInt*(inputText);  
  
 // Check for negative input  
 if (number < 0) {  
 Toast.*makeText*(MainActivity.this, "Please enter a non-negative number", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 // Calculate factorial  
 long factorialResult = calculateFactorial(number);  
  
 // Show result in AlertDialog  
 showResultDialog(factorialResult);  
 }  
 });  
 }  
  
 // Method to calculate factorial  
 private long calculateFactorial(int number) {  
 long factorial = 1;  
 for (int i = 1; i <= number; i++) {  
 factorial \*= i;  
 }  
 return factorial;  
 }  
  
 // Method to show the result in an AlertDialog  
 private void showResultDialog(long result) {  
 // Create the AlertDialog  
 AlertDialog.Builder builder = new AlertDialog.Builder(this);  
 builder.setTitle("Factorial Result");  
 builder.setMessage("The factorial is: " + result);  
 builder.setPositiveButton("OK", null);  
  
 // Show the dialog  
 builder.show();  
 }  
}

Slip 4:

10 marks:

Q1. Create a Simple Application, that performs Arithmetic Operations. (Use constraint layout)

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/Result"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Result:"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.115" />  
  
 <EditText  
 android:id="@+id/number2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 android:text="Entere the second Number:"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.587"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.454" />  
  
 <EditText  
 android:id="@+id/editTextText2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 android:text="Enter the first number"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.587"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.281" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Add"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.249"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.638" />  
  
 <Button  
 android:id="@+id/button2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Sub"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.838"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.638" />  
  
 <Button  
 android:id="@+id/button3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="multification"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.249"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.811" />  
  
 <Button  
 android:id="@+id/button4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Division"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.838"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.825" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog8;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText firstNumberEditText, secondNumberEditText; // Input fields  
 private TextView resultTextView; // Result display  
 private Button addButton, subtractButton, multiplyButton, divideButton; // Buttons  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize views  
 firstNumberEditText = findViewById(R.id.*editTextText2*);  
 secondNumberEditText = findViewById(R.id.*number2*);  
 resultTextView = findViewById(R.id.*Result*);  
  
 addButton = findViewById(R.id.*button*);  
 subtractButton = findViewById(R.id.*button2*);  
 multiplyButton = findViewById(R.id.*button3*);  
 divideButton = findViewById(R.id.*button4*);  
  
 // Set onClickListeners for the buttons  
 addButton.setOnClickListener(v -> performArithmeticOperation("add"));  
 subtractButton.setOnClickListener(v -> performArithmeticOperation("subtract"));  
 multiplyButton.setOnClickListener(v -> performArithmeticOperation("multiply"));  
 divideButton.setOnClickListener(v -> performArithmeticOperation("divide"));  
 }  
  
 // Perform arithmetic operation based on the button clicked  
 private void performArithmeticOperation(String operation) {  
 String firstInput = firstNumberEditText.getText().toString();  
 String secondInput = secondNumberEditText.getText().toString();  
  
 if (firstInput.isEmpty() || secondInput.isEmpty()) {  
 Toast.*makeText*(this, "Please enter both numbers", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 double firstNumber = Double.*parseDouble*(firstInput);  
 double secondNumber = Double.*parseDouble*(secondInput);  
 double result;  
  
 switch (operation) {  
 case "add":  
 result = firstNumber + secondNumber;  
 break;  
 case "subtract":  
 result = firstNumber - secondNumber;  
 break;  
 case "multiply":  
 result = firstNumber \* secondNumber;  
 break;  
 case "divide":  
 if (secondNumber == 0) {  
 Toast.*makeText*(this, "Cannot divide by zero", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 result = firstNumber / secondNumber;  
 break;  
 default:  
 result = 0;  
 }  
  
 // Display the result  
 resultTextView.setText("Result: " + result);  
 }  
}

20 marks:

Q2. Create an android Application for performing the following operation on the table Customer (id, name, address, phno). (use SQLite database)

1. Insert New Customer Details.
2. ii) Show All the Customer Details on Toast Message.

Activity\_main.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:id="@+id/main"  
android:layout\_width="match\_parent"  
android:layout\_height="match\_parent"  
tools:context=".MainActivity">  
  
 <TextView  
android:id="@+id/textView"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Cutomer Name:"  
android:textSize="24sp"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.065"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.211" />  
  
 <EditText  
android:id="@+id/editTextText"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:ems="10"  
android:inputType="text"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="1.0"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.195" />  
  
 <TextView  
android:id="@+id/textView2"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Address:"  
android:textSize="24sp"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.11"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.319" />  
  
 <EditText  
android:id="@+id/editTextText2"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:ems="10"  
android:inputType="text"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.796"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.325" />  
  
 <TextView  
android:id="@+id/textView3"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Phone No:"  
android:textSize="20sp"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.113"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.44" />  
  
 <EditText  
android:id="@+id/editTextPhone"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:ems="10"  
android:inputType="phone"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.8"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.441" />  
  
 <Button  
android:id="@+id/button"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="insert"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.195"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.617" />  
  
 <Button  
android:id="@+id/button2"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="show"  
app:layout\_constraintBottom\_toBottomOf="parent"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintHorizontal\_bias="0.71"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
app:layout\_constraintVertical\_bias="0.617" />

Main\_activity.java:

package com.example.program2;  
  
  
import android.database.Cursor;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText editTextName, editTextAddress, editTextPhone;  
 private Button buttonInsert, buttonShowAll;  
 private DatabaseHelper databaseHelper;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 editTextName = findViewById(R.id.editTextText);  
 editTextAddress = findViewById(R.id.editTextText2);  
 editTextPhone = findViewById(R.id.editTextPhone);  
 buttonInsert = findViewById(R.id.button);  
 buttonShowAll = findViewById(R.id.button2);  
  
 databaseHelper = new DatabaseHelper(this);  
  
 buttonInsert.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String name = editTextName.getText().toString();  
 String address = editTextAddress.getText().toString();  
 String phone = editTextPhone.getText().toString();  
  
 if (!name.isEmpty() && !address.isEmpty() && !phone.isEmpty()) {  
 long result = databaseHelper.insertCustomer(name, address, phone);  
 if (result != -1) {  
 Toast.*makeText*(MainActivity.this, "Customer Added!", Toast.*LENGTH\_SHORT*).show();  
 } else {  
 Toast.*makeText*(MainActivity.this, "Failed to Add Customer", Toast.*LENGTH\_SHORT*).show();  
 }  
 } else {  
 Toast.*makeText*(MainActivity.this, "Please fill all fields", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
  
 buttonShowAll.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Cursor cursor = databaseHelper.getAllCustomers();  
 StringBuilder customerDetails = new StringBuilder();  
  
 if (cursor.moveToFirst()) {  
 do {  
 String id = cursor.getString(cursor.getColumnIndex("id"));  
 String name = cursor.getString(cursor.getColumnIndex("name"));  
 String address = cursor.getString(cursor.getColumnIndex("address"));  
 String phone = cursor.getString(cursor.getColumnIndex("phone"));  
 customerDetails.append("ID: ").append(id)  
 .append(", Name: ").append(name)  
 .append(", Address: ").append(address)  
 .append(", Phone: ").append(phone)  
 .append("\n");  
 } while (cursor.moveToNext());  
  
 Toast.*makeText*(MainActivity.this, customerDetails.toString(), Toast.*LENGTH\_LONG*).show();  
 } else {  
 Toast.*makeText*(MainActivity.this, "No customers found", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
}

databaseHelper.java

package com.example.program2;  
  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
public class DatabaseHelper extends SQLiteOpenHelper {  
  
 private static final String *DATABASE\_NAME* = "customerDB";  
 private static final int *DATABASE\_VERSION* = 1;  
 private static final String *TABLE\_NAME* = "customer";  
 private static final String *COL\_ID* = "id";  
 private static final String *COL\_NAME* = "name";  
 private static final String *COL\_ADDRESS* = "address";  
 private static final String *COL\_PHONE* = "phone";  
  
 public DatabaseHelper(Context context) {  
 super(context, *DATABASE\_NAME*, null, *DATABASE\_VERSION*);  
 }  
  
 @Override  
 public void onCreate(SQLiteDatabase db) {  
 String CREATE\_TABLE = "CREATE TABLE " + *TABLE\_NAME* + " ("  
 + *COL\_ID* + " INTEGER PRIMARY KEY AUTOINCREMENT, "  
 + *COL\_NAME* + " TEXT, "  
 + *COL\_ADDRESS* + " TEXT, "  
 + *COL\_PHONE* + " TEXT)";  
 db.execSQL(CREATE\_TABLE);  
 }  
  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {  
 db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_NAME*);  
 onCreate(db);  
 }  
  
 public long insertCustomer(String name, String address, String phone) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 ContentValues values = new ContentValues();  
 values.put(*COL\_NAME*, name);  
 values.put(*COL\_ADDRESS*, address);  
 values.put(*COL\_PHONE*, phone);  
  
 return db.insert(*TABLE\_NAME*, null, values);  
 }  
  
 public Cursor getAllCustomers() {  
 SQLiteDatabase db = this.getReadableDatabase();  
 return db.rawQuery("SELECT \* FROM " + *TABLE\_NAME*, null);  
 }  
}

Slip 5:

10 marks:

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

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/editTextNumber"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="number"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.6"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.137" />  
  
 <EditText  
 android:id="@+id/editTextNumber2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="number"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.6"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.279" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="calculate"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog2;  
  
  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText num1EditText, num2EditText;  
 private Button calculateButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 num1EditText = findViewById(R.id.*editTextNumber*);  
 num2EditText = findViewById(R.id.*editTextNumber2*);  
 calculateButton = findViewById(R.id.*button*);  
  
 calculateButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Get numbers from input fields  
 String num1String = num1EditText.getText().toString();  
 String num2String = num2EditText.getText().toString();  
  
 // Check if inputs are valid  
 if (!num1String.isEmpty() && !num2String.isEmpty()) {  
 double num1 = Double.*parseDouble*(num1String);  
 double num2 = Double.*parseDouble*(num2String);  
  
 // Calculate power and average  
 double power = Math.*pow*(num1, num2); // num1 raised to the power of num2  
 double average = (num1 + num2) / 2;  
  
 // Send results to ResultActivity  
 Intent intent = new Intent(MainActivity.this, MainActivity2.class);  
 intent.putExtra("POWER\_RESULT", power);  
 intent.putExtra("AVERAGE\_RESULT", average);  
 startActivity(intent);  
 }  
 }  
 });  
 }  
}

Activity\_main2.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity2">  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Power Result"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.532"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.182" />  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Average Result"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity2.java

package com.example.prog2;  
  
  
import android.os.Bundle;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity2 extends AppCompatActivity {  
  
 private TextView powerResultTextView, averageResultTextView;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
  
 powerResultTextView = findViewById(R.id.*textView2*);  
 averageResultTextView = findViewById(R.id.*textView3*);  
  
 // Get the results from the intent  
 double powerResult = getIntent().getDoubleExtra("POWER\_RESULT", 0);  
 double averageResult = getIntent().getDoubleExtra("AVERAGE\_RESULT", 0);  
  
 // Display the results  
 powerResultTextView.setText("Power: " + powerResult);  
 averageResultTextView.setText("Average: " + averageResult);  
 }  
}

20 marks:

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:

<?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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Show Friends"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.587"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.449" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog3;  
  
  
import android.app.AlertDialog;  
import android.content.DialogInterface;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Button showFriendsButton = findViewById(R.id.*button*);  
  
 showFriendsButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // List of friends  
 String[] friends = {"Alice", "Bob", "Charlie", "David"};  
  
 // Create AlertDialog.Builder  
 AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);  
 builder.setTitle("Select a Friend")  
 .setItems(friends, new DialogInterface.OnClickListener() {  
 @Override  
 public void onClick(DialogInterface dialog, int which) {  
 // Handle the click event based on the position  
 String selectedFriend = friends[which];  
 Toast.*makeText*(MainActivity.this, "Hello, " + selectedFriend + "!", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
  
 // Show the AlertDialog  
 builder.create().show();  
 }  
 });  
 }  
}

Slip 6:

10 marks:

Q1. Create a Simple Application Which Send ―Hello! message from one activity to another with help of Button (Use Intent).

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Send Hello"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.632"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.474" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog4;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Button sendMessageButton = findViewById(R.id.*button*);  
  
 sendMessageButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Create an Intent to navigate to the Second Activity  
 Intent intent = new Intent(MainActivity.this, MainActivity2.class);  
  
 // Put the message into the Intent  
 intent.putExtra("message", "Hello!");  
  
 // Start the Second Activity  
 startActivity(intent);  
 }  
 });  
 }  
}

Activity\_main2.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity2">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello massege display here"  
 android:textSize="16sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.564"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.437" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity2.java

package com.example.prog4;  
  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity2 extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
  
 // Retrieve the message from the Intent  
 Intent intent = getIntent();  
 String message = intent.getStringExtra("message");  
  
 // Display the message in a TextView  
 TextView messageTextView = findViewById(R.id.*textView*);  
 messageTextView.setText(message);  
 }  
}

20 marks:

Q2. Create an Android Application that Demonstrates ListView and On click of List Display the Toast.

Activity\_main.xml:

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <ListView  
 android:id="@+id/myListView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent" />  
</RelativeLayout>

Main\_activity.java:

package com.example.prog5;  
  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Sample data for the list  
 String[] friends = {"Alice", "Bob", "Charlie", "David", "Eve"};  
  
 // Get reference to ListView  
 ListView listView = findViewById(R.id.*myListView*);  
  
 // Create an ArrayAdapter to populate the ListView  
 ArrayAdapter<String> adapter = new ArrayAdapter<>(this, android.R.layout.*simple\_list\_item\_1*, friends);  
 listView.setAdapter(adapter);  
  
 // Set an item click listener to display a Toast message when an item is clicked  
 listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
 @Override  
 public void onItemClick(AdapterView<?> parent, View view, int position, long id) {  
 // Get the clicked item text  
 String clickedItem = (String) parent.getItemAtPosition(position);  
  
 // Show a Toast message with the clicked item  
 Toast.*makeText*(MainActivity.this, "Clicked: " + clickedItem, Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
}

Slip 7:

10 marks:

Q1. Create an Android Application that Demonstrate Radio Button.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
  
  
 <RadioGroup  
 android:id="@+id/radioGroup"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintVertical\_bias="0.3">  
  
 <RadioButton  
 android:id="@+id/radioButton1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Option 1" />  
  
 <RadioButton  
 android:id="@+id/radioButton2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Option 2" />  
  
 <RadioButton  
 android:id="@+id/radioButton3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Option 3" />  
  
 </RadioGroup>  
  
 <!-- TextView to display the selected option -->  
 <TextView  
 android:id="@+id/selectedOptionText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="364dp"  
 android:text="Selected option will appear here"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.496"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/radioGroup" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog7;  
  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.RadioButton;  
import android.widget.RadioGroup;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private RadioGroup radioGroup;  
 private TextView selectedOptionText;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Get references to the RadioGroup and TextView  
 radioGroup = findViewById(R.id.*radioGroup*);  
 selectedOptionText = findViewById(R.id.*selectedOptionText*);  
  
 // Set an OnCheckedChangeListener to the RadioGroup  
 radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {  
 @Override  
 public void onCheckedChanged(RadioGroup group, int checkedId) {  
 // Get the RadioButton that was selected  
 RadioButton selectedRadioButton = findViewById(checkedId);  
  
 // Display the selected option in the TextView  
 selectedOptionText.setText("Selected: " + selectedRadioButton.getText());  
  
 // Optionally, show a Toast message  
 Toast.*makeText*(MainActivity.this, "You selected: " + selectedRadioButton.getText(), Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
}

20 marks:

Q2. Create an Android application to demonstrate phone call using Implicit Intent.

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Enter the phone number"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.329"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.143" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Call"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <EditText  
 android:id="@+id/editTextText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.287" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Main\_activity.java:

package com.example.prog8;  
  
  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText phoneNumberEditText;  
 private Button callButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize the views  
 phoneNumberEditText = findViewById(R.id.*editTextText*);  
 callButton = findViewById(R.id.*button*);  
  
 // Set an OnClickListener for the "Call" button  
 callButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Get the phone number from the EditText  
 String phoneNumber = phoneNumberEditText.getText().toString().trim();  
  
 // Check if the phone number is valid  
 if (!phoneNumber.isEmpty()) {  
 // Create an implicit intent to dial the phone number  
 Intent intent = new Intent(Intent.*ACTION\_DIAL*);  
 intent.setData(Uri.*parse*("tel:" + phoneNumber));  
  
 // Start the dialer activity  
 startActivity(intent);  
 } else {  
 // Show a toast if the phone number is empty  
 Toast.*makeText*(MainActivity.this, "Please enter a valid phone number", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
}

Slip=9

Q1. Write an Android application to accept two numbers from the user, and display them, but reject input if both numbers are greater than 10 and asks for two new numbers.[10 mark]

Ans:=

activity\_main.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="match\_parent"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/number1EditText"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="16dp"  
 android:hint="Enter first number"  
 android:inputType="number"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="1.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.22" />  
  
 <EditText  
 android:id="@+id/number2EditText"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="16dp"  
 android:layout\_marginTop="192dp"  
 android:hint="Enter second number"  
 android:inputType="number"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.125"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/number1EditText"  
 app:layout\_constraintVertical\_bias="0.0" />  
  
 <Button  
 android:id="@+id/submitButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="16dp"  
 android:layout\_marginTop="92dp"  
 android:text="Submit"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/number2EditText"  
 app:layout\_constraintVertical\_bias="0.04" />  
  
 <TextView  
 android:id="@+id/resultTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text=""  
 app:layout\_constraintTop\_toBottomOf="@id/submitButton"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 android:layout\_margin="16dp"  
 android:textSize="18sp"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Mainactivity.kt(koltin)

package com.example.slipq9  
  
  
 import android.os.Bundle  
 import android.widget.Button  
 import android.widget.EditText  
 import android.widget.TextView  
 import android.widget.Toast  
 import androidx.appcompat.app.AppCompatActivity  
  
 class MainActivity : AppCompatActivity() {  
  
 private lateinit var number1EditText: EditText  
 private lateinit var number2EditText: EditText  
 private lateinit var submitButton: Button  
 private lateinit var resultTextView: TextView  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.activity\_main)  
  
 number1EditText = findViewById(R.id.number1EditText)  
 number2EditText = findViewById(R.id.number2EditText)  
 submitButton = findViewById(R.id.submitButton)  
 resultTextView = findViewById(R.id.resultTextView)  
  
 submitButton.setOnClickListener {  
 val num1Text = number1EditText.text.toString()  
 val num2Text = number2EditText.text.toString()  
  
 if (num1Text.isEmpty() || num2Text.isEmpty()) {  
 Toast.makeText(this, "Please enter both numbers", Toast.LENGTH\_SHORT).show()  
 return@setOnClickListener  
 }  
  
 val num1 = num1Text.toInt()  
 val num2 = num2Text.toInt()  
  
 if (num1 > 10 && num2 > 10) {  
 Toast.makeText(this, "Both numbers are greater than 10. Please enter new numbers.", Toast.LENGTH\_LONG).show()  
 number1EditText.text.clear()  
 number2EditText.text.clear()  
 resultTextView.text = ""  
 } else {  
 resultTextView.text = "Number 1: $num1\nNumber 2: $num2"  
 }  
 }  
 }  
 }

Slip=10

Q1. Create an Android Application that Demonstrate Switch and Toggle Button. [10 Marks]

Ans:=

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello, World!"  
 android:textSize="24sp"  
 android:visibility="visible" />  
  
 <Switch  
 android:id="@+id/switchVisibility"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Toggle TextView Visibility" />  
  
 <ToggleButton  
 android:id="@+id/toggleButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textOn="ON"  
 android:textOff="OFF" />  
  
</LinearLayout>

Main activity.java

package com.example.slip10;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Switch;  
import android.widget.TextView;  
import android.widget.ToggleButton;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private TextView textView;  
 private Switch switchVisibility;  
 private ToggleButton toggleButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 textView = findViewById(R.id.textView);  
 switchVisibility = findViewById(R.id.switchVisibility);  
 toggleButton = findViewById(R.id.toggleButton);  
  
 // Set up the Switch listener  
 switchVisibility.setOnCheckedChangeListener((buttonView, isChecked) -> {  
 if (isChecked) {  
 textView.setVisibility(View.*VISIBLE*);  
 } else {  
 textView.setVisibility(View.*GONE*);  
 }  
 });  
  
 // Set up the Toggle Button listener  
 toggleButton.setOnCheckedChangeListener((buttonView, isChecked) -> {  
 if (isChecked) {  
 textView.setText("Toggle Button is ON");  
 } else {  
 textView.setText("Toggle Button is OFF");  
 }  
 });  
 }  
}

Q2. Demonstrate Array Adapter using List View to display list of fruits. [20 Marks]

Ans:=

Activicty\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <ListView  
 android:id="@+id/listViewFruits"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
</LinearLayout>

Main activity.java

package com.example.fruitlist;  
  
import android.os.Bundle;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 // Reference to the ListView  
 ListView listView = findViewById(R.id.listViewFruits);  
  
 // Array of fruits  
 String[] fruits = {"Apple", "Banana", "Cherry", "Date", "Grapes", "Mango", "Orange", "Papaya"};  
  
 // Create ArrayAdapter  
 ArrayAdapter<String> adapter = new ArrayAdapter<>(  
 this,  
 android.R.layout.*simple\_list\_item\_1*,  
 fruits  
 );  
  
 // Set adapter to ListView  
 listView.setAdapter(adapter);  
 }  
}

slip=11

Q.1 Create android application to change Font Size, Color and Font Family of String. {10 mark}

Ans:

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <TextView  
 android:id="@+id/sampleTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Sample Text"  
 android:textSize="18sp"  
 android:textColor="#000000"  
 android:layout\_gravity="center"  
 android:padding="16dp" />  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Font Size" />  
  
 <SeekBar  
 android:id="@+id/fontSizeSeekBar"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:max="50"  
 android:progress="18" />  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Font Family" />  
  
 <Spinner  
 android:id="@+id/fontFamilySpinner"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Font Color" />  
  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
  
 <Button  
 android:id="@+id/colorRed"  
 android:layout\_width="40dp"  
 android:layout\_height="40dp"  
 android:background="#FF0000" />  
  
 <Button  
 android:id="@+id/colorGreen"  
 android:layout\_width="40dp"  
 android:layout\_height="40dp"  
 android:background="#00FF00" />  
  
 <Button  
 android:id="@+id/colorBlue"  
 android:layout\_width="40dp"  
 android:layout\_height="40dp"  
 android:background="#0000FF" />  
 </LinearLayout>  
</LinearLayout>

Main activity. Kt

package com.example.fontcustomizer  
  
  
import android.graphics.Typeface  
import android.os.Bundle  
import android.widget.\*  
import androidx.appcompat.app.AppCompatActivity  
  
class MainActivity : AppCompatActivity() {  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.activity\_main)  
  
 val sampleTextView: TextView = findViewById(R.id.sampleTextView)  
 val fontSizeSeekBar: SeekBar = findViewById(R.id.fontSizeSeekBar)  
 val fontFamilySpinner: Spinner = findViewById(R.id.fontFamilySpinner)  
 val colorRed: Button = findViewById(R.id.colorRed)  
 val colorGreen: Button = findViewById(R.id.colorGreen)  
 val colorBlue: Button = findViewById(R.id.colorBlue)  
  
 // Font size change listener  
 fontSizeSeekBar.setOnSeekBarChangeListener(object : SeekBar.OnSeekBarChangeListener {  
 override fun onProgressChanged(seekBar: SeekBar?, progress: Int, fromUser: Boolean) {  
 sampleTextView.textSize = progress.toFloat()  
 }  
  
 override fun onStartTrackingTouch(seekBar: SeekBar?) {}  
 override fun onStopTrackingTouch(seekBar: SeekBar?) {}  
 })  
  
 // Font family options  
 val fonts = arrayOf("sans-serif", "serif", "monospace")  
 val adapter = ArrayAdapter(this, android.R.layout.*simple\_spinner\_item*, fonts)  
 adapter.setDropDownViewResource(android.R.layout.*simple\_spinner\_dropdown\_item*)  
 fontFamilySpinner.adapter = adapter  
  
 fontFamilySpinner.onItemSelectedListener = object : AdapterView.OnItemSelectedListener {  
 override fun onItemSelected(parent: AdapterView<\*>, view: android.view.View, position: Int, id: Long) {  
 val selectedFont = fonts[position]  
 sampleTextView.typeface = Typeface.create(selectedFont, Typeface.*NORMAL*)  
 }  
  
 override fun onNothingSelected(parent: AdapterView<\*>) {}  
 }  
  
 // Font color buttons  
 colorRed.setOnClickListener { sampleTextView.setTextColor(resources.getColor(android.R.color.*holo\_red\_dark*)) }  
 colorGreen.setOnClickListener { sampleTextView.setTextColor(resources.getColor(android.R.color.*holo\_green\_dark*)) }  
 colorBlue.setOnClickListener { sampleTextView.setTextColor(resources.getColor(android.R.color.*holo\_blue\_dark*)) }  
 }  
}

Slip=12

[20 Marks]

Q.2 Create First Activity to accept information like Student First Name, Middle Name, Last Name, Date of birth, Address, Email ID and display all information on Second Activity whenuser click on the Submit button.

Ans:-

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <EditText  
 android:id="@+id/etFirstName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="First Name" />  
  
 <EditText  
 android:id="@+id/etMiddleName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Middle Name" />  
  
 <EditText  
 android:id="@+id/etLastName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Last Name" />  
  
 <EditText  
 android:id="@+id/etDOB"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Date of Birth (DD/MM/YYYY)" />  
  
 <EditText  
 android:id="@+id/etAddress"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Address" />  
  
 <EditText  
 android:id="@+id/etEmail"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Email ID"  
 android:inputType="textEmailAddress" />  
  
 <Button  
 android:id="@+id/btnSubmit"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Submit" />  
</LinearLayout>

Main activity.java

package com.example.studentinfo;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText etFirstName, etMiddleName, etLastName, etDOB, etAddress, etEmail;  
 Button btnSubmit;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 etFirstName = findViewById(R.id.etFirstName);  
 etMiddleName = findViewById(R.id.etMiddleName);  
 etLastName = findViewById(R.id.etLastName);  
 etDOB = findViewById(R.id.etDOB);  
 etAddress = findViewById(R.id.etAddress);  
 etEmail = findViewById(R.id.etEmail);  
 btnSubmit = findViewById(R.id.btnSubmit);  
  
 btnSubmit.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(MainActivity.this, DisplayActivity.class);  
 intent.putExtra("firstName", etFirstName.getText().toString());  
 intent.putExtra("middleName", etMiddleName.getText().toString());  
 intent.putExtra("lastName", etLastName.getText().toString());  
 intent.putExtra("dob", etDOB.getText().toString());  
 intent.putExtra("address", etAddress.getText().toString());  
 intent.putExtra("email", etEmail.getText().toString());  
  
 startActivity(intent);  
 }  
 });  
 }  
}

activity\_display .xml(second activity)

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
android:layout\_width="match\_parent"  
android:layout\_height="match\_parent"  
android:orientation="vertical"  
android:padding="16dp">  
  
 <TextView  
android:id="@+id/tvDisplay"  
android:layout\_width="match\_parent"  
android:layout\_height="wrap\_content"  
android:textSize="18sp" />  
</LinearLayout>

Display activity.java (second activity)

package com.example.studentinfo;  
  
import android.os.Bundle;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class DisplayActivity extends AppCompatActivity {  
  
 TextView tvDisplay;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_display);  
  
 tvDisplay = findViewById(R.id.tvDisplay);  
  
 String firstName = getIntent().getStringExtra("firstName");  
 String middleName = getIntent().getStringExtra("middleName");  
 String lastName = getIntent().getStringExtra("lastName");  
 String dob = getIntent().getStringExtra("dob");  
 String address = getIntent().getStringExtra("address");  
 String email = getIntent().getStringExtra("email");  
  
 String displayText = "First Name: " + firstName + "\n"  
 + "Middle Name: " + middleName + "\n"  
 + "Last Name: " + lastName + "\n"  
 + "DOB: " + dob + "\n"  
 + "Address: " + address + "\n"  
 + "Email: " + email;  
  
 tvDisplay.setText(displayText);  
 }  
}

Slip-13

Q1 Create a Simple Application Which Send ―Hi‖ message from one activity to another with help of Button (Use Intent).[10 mark]

Ans:-

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
android:layout\_width="match\_parent"  
android:layout\_height="match\_parent"  
android:orientation="vertical"  
android:gravity="center"  
android:padding="16dp">  
  
 <Button  
android:id="@+id/buttonSend"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Send Hi" />  
</LinearLayout>

MainActivity.kt

package com.example.secondactivity;  
  
import android.content.Intent  
import android.os.Bundle  
import androidx.appcompat.app.AppCompatActivity  
import android.widget.Button  
  
class MainActivity : AppCompatActivity() {  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.activity\_main)  
  
 val buttonSend: Button = findViewById(R.id.buttonSend)  
 buttonSend.setOnClickListener {  
 val intent = Intent(this, SecondActivity::class.java)  
 intent.putExtra("EXTRA\_MESSAGE", "Hi")  
 startActivity(intent)  
 }  
 }  
}

Activity\_second.xml

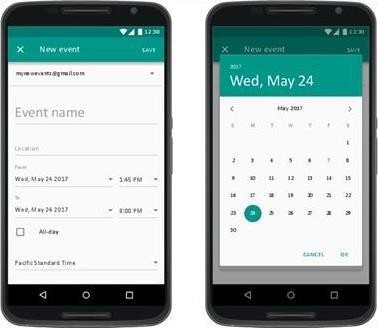
<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
android:layout\_width="match\_parent"  
android:layout\_height="match\_parent"  
android:orientation="vertical"  
android:gravity="center"  
android:padding="16dp">  
  
 <TextView  
android:id="@+id/textViewMessage"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:textSize="24sp" />  
</LinearLayout>

SecondActivity.kt

package com.example.secondactivity  
  
  
import android.os.Bundle  
import androidx.appcompat.app.AppCompatActivity  
import android.widget.TextView  
  
class SecondActivity : AppCompatActivity() {  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.activity\_second)  
  
 val message = intent.getStringExtra("EXTRA\_MESSAGE")  
 val textView: TextView = findViewById(R.id.textViewMessage)  
 textView.text = message  
 }

}

Q.2 Create an application to demonstrate date and time picker. [20 Marks]



Ans:=

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp"  
 android:gravity="center">  
  
 <Button  
 android:id="@+id/btnDatePicker"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Select Date" />  
  
 <TextView  
 android:id="@+id/tvSelectedDate"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Selected Date: "  
 android:layout\_marginTop="16dp"/>  
  
 <Button  
 android:id="@+id/btnTimePicker"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Select Time"  
 android:layout\_marginTop="24dp" />  
  
 <TextView  
 android:id="@+id/tvSelectedTime"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Selected Time: "  
 android:layout\_marginTop="16dp"/>  
</LinearLayout>

MainActivity.kt

package com.example.datetimepickerdemo  
  
  
import android.app.DatePickerDialog  
import android.app.TimePickerDialog  
import android.os.Bundle  
import androidx.appcompat.app.AppCompatActivity  
import android.widget.Button  
import android.widget.TextView  
import java.util.\*  
  
class MainActivity : AppCompatActivity() {  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
  
 val btnDatePicker = findViewById<Button>(R.id.*btnDatePicker*)  
 val tvSelectedDate = findViewById<TextView>(R.id.*tvSelectedDate*)  
 val btnTimePicker = findViewById<Button>(R.id.*btnTimePicker*)  
 val tvSelectedTime = findViewById<TextView>(R.id.*tvSelectedTime*)  
  
 btnDatePicker.setOnClickListener **{** val calendar = Calendar.getInstance()  
 val year = calendar.get(Calendar.*YEAR*)  
 val month = calendar.get(Calendar.*MONTH*)  
 val day = calendar.get(Calendar.*DAY\_OF\_MONTH*)  
  
 val datePickerDialog = DatePickerDialog(  
 this,  
 **{** \_, selectedYear, selectedMonth, selectedDay **->** val date = "${selectedDay}/${selectedMonth + 1}/${selectedYear}"  
 tvSelectedDate.*text* = "Selected Date: $date"  
 **}**,  
 year, month, day  
 )  
 datePickerDialog.show()  
 **}** btnTimePicker.setOnClickListener **{** val calendar = Calendar.getInstance()  
 val hour = calendar.get(Calendar.*HOUR\_OF\_DAY*)  
 val minute = calendar.get(Calendar.*MINUTE*)  
  
 val timePickerDialog = TimePickerDialog(  
 this,  
 **{** \_, selectedHour, selectedMinute **->** val time = String.*format*("%02d:%02d", selectedHour, selectedMinute)  
 tvSelectedTime.*text* = "Selected Time: $time"  
 **}**,  
 hour, minute, true  
 )  
 timePickerDialog.show()  
 **}** }  
}

Slip 15

Q1. Design following-add a border to an Android Layout.[10 mark]

Activity\_main.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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:background="@drawable/boarder"  
 tools:layout\_editor\_absoluteX="70dp"  
 tools:layout\_editor\_absoluteY="0dp" />  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 android:textColor="@color/black"  
 android:textColorLink="#ED1A1314"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
  
</androidx.constraintlayout.widget.ConstraintLayout>

border.xml

res write click-> new->android resource file-> file name ->finish

<?xml version="1.0" encoding="utf-8"?>  
<layer-list xmlns:android="http://schemas.android.com/apk/res/android">  
 <item>  
 <shape android:shape="rectangle">  
 <solid android:color="@color/blue">  
 </solid>  
 </shape>  
  
 </item>  
 <item android:right="10dp" android:top="10dp">  
 <shape android:shape="rectangle">  
 <solid android:color="@color/white">  
 </solid>  
 </shape>  
 </item>  
 <item android:left="10dp">  
 <shape android:shape="rectangle" >  
 <solid android:color="@color/blue">  
 </solid>  
 </shape>  
  
 </item>  
  
 <item android:start="10dp" android:top="10dp">  
 <shape android:shape="rectangle">  
 <solid android:color="@color/white">  
 </solid>  
 </shape>  
 </item>  
 <item android:left="10dp" android:width="10dp" android:bottom="10dp" >  
 <shape android:shape="rectangle">  
 <solid android:color="@color/white">  
  
 </solid>  
 </shape>  
 </item>  
 <item android:left="10dp" android:top="10dp" android:bottom="10dp" android:right="10dp">  
 <shape android:shape="rectangle">  
 <solid android:color="@color/blue">  
  
 </solid>  
 </shape>  
 </item>  
</layer-list>

Colors.xml

Res->values->colors.xml

<?xml version="1.0" encoding="utf-8"?>  
<resources>  
 <color name="blue">#0000FF</color>  
 <color name="white">#FFFFFFFF</color>  
 <color name="black">#000000</color>  
  
</resources>

MainActivity.java

package com.example.slip;  
  
import android.os.Bundle;  
  
import androidx.activity.EdgeToEdge;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.graphics.Insets;  
import androidx.core.view.ViewCompat;  
import androidx.core.view.WindowInsetsCompat;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 EdgeToEdge.*enable*(this);  
 setContentView(R.layout.*activity\_main*);  
 ViewCompat.*setOnApplyWindowInsetsListener*(findViewById(R.id.*main*), (v, insets) -> {  
 Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.*systemBars*());  
 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);  
 return insets;  
 });  
 }  
}

Q2 Create simple application with Login Screen. On successful login, gives message go tonext Activity (Without Using Database).[20 mark]

USERNAME,PASSWORD,LOGIN

ANS:

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="20dp"  
 android:background="#4CAF50">  
  
 <EditText  
 android:id="@+id/etEmail"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Email"  
 android:inputType="textEmailAddress"  
 android:padding="20dp"  
 android:background="@android:drawable/editbox\_background" />  
  
 <EditText  
 android:id="@+id/etPassword"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Password"  
 android:inputType="textPassword"  
 android:padding="20dp"  
 android:background="@android:drawable/editbox\_background"  
 android:layout\_marginTop="10dp" />  
  
 <Button  
 android:id="@+id/btnLogin"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="LOGIN"  
 android:background="#ffffff"  
 android:textColor="#000000"  
 android:layout\_marginTop="20dp" />  
  
</LinearLayout>

MainActivity.java

package com.example.myapplication;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
import com.example.myapplication.MainActivity2;  
  
public class MainActivity extends AppCompatActivity {  
 private EditText etEmail, etPassword;  
 private Button btnLogin;  
  
 // Hardcoded credentials (for testing without a database)  
 private final String validEmail = "user@example.com";  
 private final String validPassword = "123456";  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 etEmail = findViewById(R.id.*etEmail*);  
 etPassword = findViewById(R.id.*etPassword*);  
 btnLogin = findViewById(R.id.*btnLogin*);  
  
 btnLogin.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String email = etEmail.getText().toString();  
 String password = etPassword.getText().toString();  
  
 if (email.equals(validEmail) && password.equals(validPassword)) {  
 Toast.*makeText*(MainActivity.this, "Login Successful!", Toast.*LENGTH\_SHORT*).show();  
 startActivity(new Intent(MainActivity.this, MainActivity2.class));  
 } else {  
 Toast.*makeText*(MainActivity.this, "Invalid Email or Password!", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
}

activity\_main2.xml

#no need to change

<?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:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity2">  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity2.java

App->write click->new->activity->empty view activity

package com.example.myapplication;  
  
import android.os.Bundle;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity2 extends AppCompatActivity {  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 TextView textView = new TextView(this);  
 textView.setText("Welcome to the Next Screen!");  
 textView.setTextSize(24);  
 setContentView(textView);  
 }  
}

Slip16

Q2. Create a Simple calculator.20MARKS

activity\_main.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="match\_parent"  
tools:context=".MainActivity">  
  
 <!-- Display screen for calculator -->  
 <TextView  
android:id="@+id/display"  
android:layout\_width="0dp"  
android:layout\_height="wrap\_content"  
android:layout\_marginTop="32dp"  
android:gravity="end"  
android:text=""  
android:textSize="36sp"  
android:padding="16dp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent" />  
  
 <!-- Button layout for calculator -->  
 <GridLayout  
android:layout\_width="match\_parent"  
android:layout\_height="wrap\_content"  
android:columnCount="4"  
android:rowCount="5"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/display">  
  
 <!-- Row 1 (First row of buttons) -->  
 <Button  
android:id="@+id/btn7"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="7" />  
 <Button  
android:id="@+id/btn8"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="8" />  
 <Button  
android:id="@+id/btn9"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="9" />  
 <Button  
android:id="@+id/btnAdd"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="+" />  
  
 <!-- Row 2 -->  
 <Button  
android:id="@+id/btn4"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="4" />  
 <Button  
android:id="@+id/btn5"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="5" />  
 <Button  
android:id="@+id/btn6"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="6" />  
 <Button  
android:id="@+id/btnSubtract"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="-" />  
  
 <!-- Row 3 -->  
 <Button  
android:id="@+id/btn1"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="1" />  
 <Button  
android:id="@+id/btn2"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="2" />  
 <Button  
android:id="@+id/btn3"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="3" />  
 <Button  
android:id="@+id/btnMultiply"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="\*" />  
  
 <!-- Row 4 -->  
 <Button  
android:id="@+id/btn0"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="0" />  
 <Button  
android:id="@+id/btnClear"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="C" />  
 <Button  
android:id="@+id/btnEqual"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="=" />  
 <Button  
android:id="@+id/btnDivide"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="/" />  
  
 </GridLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.slip161;  
  
  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private TextView display;  
 private String input = "";  
 private String operator = "";  
 private double firstOperand = 0.0;  
 private double secondOperand = 0.0;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 display = findViewById(R.id.display);  
  
 // Number buttons  
 setButtonClickListener(R.id.btn0, "0");  
 setButtonClickListener(R.id.btn1, "1");  
 setButtonClickListener(R.id.btn2, "2");  
 setButtonClickListener(R.id.btn3, "3");  
 setButtonClickListener(R.id.btn4, "4");  
 setButtonClickListener(R.id.btn5, "5");  
 setButtonClickListener(R.id.btn6, "6");  
 setButtonClickListener(R.id.btn7, "7");  
 setButtonClickListener(R.id.btn8, "8");  
 setButtonClickListener(R.id.btn9, "9");  
  
 // Operator buttons  
 setOperatorClickListener(R.id.btnAdd, "+");  
 setOperatorClickListener(R.id.btnSubtract, "-");  
 setOperatorClickListener(R.id.btnMultiply, "\*");  
 setOperatorClickListener(R.id.btnDivide, "/");  
  
 // Clear button  
 findViewById(R.id.btnClear).setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 input = "";  
 firstOperand = 0.0;  
 secondOperand = 0.0;  
 operator = "";  
 display.setText("");  
 }  
 });  
  
 // Equal button  
 findViewById(R.id.btnEqual).setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if (!operator.isEmpty() && !input.isEmpty()) {  
 secondOperand = Double.*parseDouble*(input);  
 double result = 0;  
  
 switch (operator) {  
 case "+":  
 result = firstOperand + secondOperand;  
 break;  
 case "-":  
 result = firstOperand - secondOperand;  
 break;  
 case "\*":  
 result = firstOperand \* secondOperand;  
 break;  
 case "/":  
 if (secondOperand != 0) {  
 result = firstOperand / secondOperand;  
 } else {  
 display.setText("Error");  
 return;  
 }  
 break;  
 }  
  
 display.setText(String.*valueOf*(result));  
 input = String.*valueOf*(result);  
 operator = "";  
 }  
 }  
 });  
 }  
  
 private void setButtonClickListener(int buttonId, final String value) {  
 Button button = findViewById(buttonId);  
 button.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 input += value;  
 display.setText(input);  
 }  
 });  
 }  
  
 private void setOperatorClickListener(int buttonId, final String operatorValue) {  
 Button button = findViewById(buttonId);  
 button.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if (!input.isEmpty()) {  
 firstOperand = Double.*parseDouble*(input);  
 input = "";  
 operator = operatorValue;  
 }  
 }  
 });  
 }  
}

slip 17

Q1. Write an android code to make phone call using Intent. [10 Marks]

Activity\_main.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="match\_parent"  
tools:context=".MainActivity">  
  
 <Button  
android:id="@+id/btnCall"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Make a Call"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
android:layout\_marginTop="150dp"/>  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.slip17;  
  
  
  
import android.Manifest;  
import android.content.Intent;  
import android.content.pm.PackageManager;  
import android.net.Uri;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.ActivityCompat;  
  
public class MainActivity extends AppCompatActivity {  
  
 private Button btnCall;  
 private static final int *REQUEST\_CALL\_PERMISSION* = 1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 btnCall = findViewById(R.id.btnCall);  
  
 btnCall.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String phoneNumber = "tel:1234567890"; // Replace with the phone number you want to call  
 makePhoneCall(phoneNumber);  
 }  
 });  
 }  
  
 private void makePhoneCall(String phoneNumber) {  
 if (ActivityCompat.*checkSelfPermission*(this, Manifest.permission.*CALL\_PHONE*) != PackageManager.*PERMISSION\_GRANTED*) {  
 // Request permission if not granted  
 ActivityCompat.*requestPermissions*(this, new String[]{Manifest.permission.*CALL\_PHONE*}, *REQUEST\_CALL\_PERMISSION*);  
 } else {  
 // Make the phone call  
 Intent callIntent = new Intent(Intent.*ACTION\_CALL*);  
 callIntent.setData(Uri.*parse*(phoneNumber)); // Set the phone number to be dialed  
 startActivity(callIntent);  
 }  
 }  
  
 @Override  
 public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {  
 super.onRequestPermissionsResult(requestCode, permissions, grantResults);  
  
 if (requestCode == *REQUEST\_CALL\_PERMISSION*) {  
 if (grantResults.length > 0 && grantResults[0] == PackageManager.*PERMISSION\_GRANTED*) {  
 // Permission granted, make the phone call  
 String phoneNumber = "tel:1234567890"; // Replace with your phone number  
 makePhoneCall(phoneNumber);  
 } else {  
 // Permission denied  
 Toast.*makeText*(this, "Permission denied", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 }  
}

AndroidManifest.xml

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
xmlns:tools="http://schemas.android.com/tools">  
  
 <!-- Permission to make phone calls -->  
 <uses-feature  
android:name="android.hardware.telephony"  
android:required="false" />  
 <uses-permission android:name="android.permission.CALL\_PHONE"/>  
  
 <application  
android:allowBackup="true"  
android:dataExtractionRules="@xml/data\_extraction\_rules"  
android:fullBackupContent="@xml/backup\_rules"  
android:icon="@mipmap/ic\_launcher"  
android:label="@string/app\_name"  
android:roundIcon="@mipmap/ic\_launcher\_round"  
android:supportsRtl="true"  
android:theme="@style/Theme.Slip17"  
tools:targetApi="31">  
  
 <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>

Q2. Construct an Android Application to accept a number and calculate Factorial and Sum of Digits of a given number using Context Menu. [20 Marks]

activity\_main.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="match\_parent"  
tools:context=".MainActivity">  
  
 <!-- EditText for entering the number -->  
 <EditText  
android:id="@+id/edtNumber"  
android:layout\_width="0dp"  
android:layout\_height="wrap\_content"  
android:hint="Enter a number"  
android:inputType="number"  
android:layout\_marginTop="50dp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent" />  
  
 <!-- Button to trigger the context menu -->  
 <Button  
android:id="@+id/btnShowMenu"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Choose Operation"  
android:layout\_marginTop="30dp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/edtNumber" />  
  
 <!-- TextView to display the result -->  
 <TextView  
android:id="@+id/tvResult"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Result: "  
android:textSize="18sp"  
android:layout\_marginTop="30dp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/btnShowMenu" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.slip171;  
  
  
  
import android.os.Bundle;  
import android.view.ContextMenu;  
import android.view.MenuItem;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText edtNumber;  
 private TextView tvResult;  
 private Button btnShowMenu;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 edtNumber = findViewById(R.id.edtNumber);  
 tvResult = findViewById(R.id.tvResult);  
 btnShowMenu = findViewById(R.id.btnShowMenu);  
  
 // Register the button for the context menu  
 registerForContextMenu(btnShowMenu);  
  
 btnShowMenu.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Show context menu when the button is clicked  
 openContextMenu(v);  
 }  
 });  
 }  
  
 // Create the context menu  
 @Override  
 public void onCreateContextMenu(ContextMenu menu, View v, ContextMenu.ContextMenuInfo menuInfo) {  
 super.onCreateContextMenu(menu, v, menuInfo);  
 // Add items to the context menu  
 menu.add(0, 1, 0, "Calculate Factorial");  
 menu.add(0, 2, 0, "Calculate Sum of Digits");  
 }  
  
 // Handle the context menu item clicks  
 @Override  
 public boolean onContextItemSelected(MenuItem item) {  
 String inputText = edtNumber.getText().toString();  
  
 if (inputText.isEmpty()) {  
 Toast.*makeText*(this, "Please enter a number", Toast.*LENGTH\_SHORT*).show();  
 return false;  
 }  
  
 int number = Integer.*parseInt*(inputText);  
 int result = 0;  
  
 switch (item.getItemId()) {  
 case 1: // Calculate Factorial  
 result = factorial(number);  
 tvResult.setText("Factorial: " + result);  
 return true;  
  
 case 2: // Calculate Sum of Digits  
 result = sumOfDigits(number);  
 tvResult.setText("Sum of Digits: " + result);  
 return true;  
  
 default:  
 return super.onContextItemSelected(item);  
 }  
 }  
  
 // Method to calculate the factorial of a number  
 private int factorial(int n) {  
 int result = 1;  
 for (int i = 1; i <= n; i++) {  
 result \*= i;  
 }  
 return result;  
 }  
  
 // Method to calculate the sum of digits of a number  
 private int sumOfDigits(int n) {  
 int sum = 0;  
 while (n != 0) {  
 sum += n % 10;  
 n /= 10;  
 }  
 return sum;  
 }  
}

Slip18

Q1. Create an Android Application that Demonstrate Alert Dialog Box.[10 MARKS]

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <Button  
 android:id="@+id/btnShowAlert"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Show Alert Dialog"  
 android:layout\_centerInParent="true"/>  
</RelativeLayout>

MainActivity.java

package com.example.slip;  
  
import android.content.DialogInterface;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
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*);  
  
 Button btnShowAlert = findViewById(R.id.*btnShowAlert*);  
  
 btnShowAlert.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 AlertDialog.Builder alertDialogBuilder = new AlertDialog.Builder(MainActivity.this);  
 alertDialogBuilder.setMessage("This is an Alert Dialog!")  
 .setTitle("Alert")  
 .setCancelable(false)  
 .setPositiveButton("OK", new DialogInterface.OnClickListener() {  
 public void onClick(DialogInterface dialog, int id) {  
 dialog.dismiss();  
 }  
 })  
 .setNegativeButton("Cancel", new DialogInterface.OnClickListener() {  
 public void onClick(DialogInterface dialog, int id) {  
 dialog.dismiss();  
 }  
 });  
 AlertDialog alertDialog = alertDialogBuilder.create();  
 alertDialog.show();  
 }  
 });  
 }  
}

Q2Create an Android Application to accept two numbers and find power and Average. Display the result on the next activity using Context Menu.[20 marks]

Activity\_main.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="match\_parent"  
tools:context=".MainActivity">  
  
 <EditText  
android:id="@+id/num1"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:hint="Enter first number"  
android:inputType="numberDecimal"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
android:layout\_marginTop="150dp"/>  
  
 <EditText  
android:id="@+id/num2"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:hint="Enter second number"  
android:inputType="numberDecimal"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/num1"  
android:layout\_marginTop="20dp"/>  
  
 <Button  
android:id="@+id/btnCalculate"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Calculate"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/num2"  
android:layout\_marginTop="30dp"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.spli181;  
  
  
  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText num1EditText, num2EditText;  
 Button calculateButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 num1EditText = findViewById(R.id.num1);  
 num2EditText = findViewById(R.id.num2);  
 calculateButton = findViewById(R.id.btnCalculate);  
  
 calculateButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Get input values  
 double num1 = Double.*parseDouble*(num1EditText.getText().toString());  
 double num2 = Double.*parseDouble*(num2EditText.getText().toString());  
  
 // Calculate power and average  
 double power = Math.*pow*(num1, num2);  
 double average = (num1 + num2) / 2;  
  
 // Pass the results to the next activity  
 Intent intent = new Intent(MainActivity.this, display.class);  
 intent.putExtra("POWER", power);  
 intent.putExtra("AVERAGE", average);  
 startActivity(intent);  
 }  
 });  
 }  
}

activity\_display.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="match\_parent"  
tools:context=".display">  
  
 <TextView  
android:id="@+id/tvPowerResult"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Power Result:"  
android:textSize="18sp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent"  
android:layout\_marginTop="150dp"/>  
  
 <TextView  
android:id="@+id/tvAverageResult"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Average Result:"  
android:textSize="18sp"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toBottomOf="@id/tvPowerResult"  
android:layout\_marginTop="30dp"/>  
</androidx.constraintlayout.widget.ConstraintLayout>

Display.java

package com.example.spli181;  
  
import android.os.Bundle;  
import android.widget.TextView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class display extends AppCompatActivity {  
  
 TextView powerResultTextView, averageResultTextView;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_display);  
  
 powerResultTextView = findViewById(R.id.tvPowerResult);  
 averageResultTextView = findViewById(R.id.tvAverageResult);  
  
 // Get data from the Intent  
 double power = getIntent().getDoubleExtra("POWER", 0);  
 double average = getIntent().getDoubleExtra("AVERAGE", 0);  
  
 // Display the results  
 powerResultTextView.setText("Power Result: " + power);  
 averageResultTextView.setText("Average Result: " + average);  
 }  
}

Slip19

Q1. Create an Android Application that on/off the bulb using Toggle Button. [10 Marks]

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
android:layout\_width="match\_parent"  
android:layout\_height="match\_parent"  
android:orientation="vertical"  
android:gravity="center"  
android:padding="20dp">  
  
 <!-- TextView to display bulb status -->  
 <TextView  
android:id="@+id/bulbStatus"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:text="Bulb is OFF"  
android:textSize="18sp"  
android:layout\_marginBottom="20dp"/>  
  
 <!-- ImageView to show the bulb -->  
 <ImageView  
android:id="@+id/bulbImage"  
android:layout\_width="200dp"  
android:layout\_height="200dp"  
android:src="@drawable/bulb\_off" />  
  
 <!-- ToggleButton to control bulb on/off -->  
 <ToggleButton  
android:id="@+id/toggleButton"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:textOn="Bulb ON"  
android:textOff="Bulb OFF"  
android:layout\_marginTop="20dp"/>  
</LinearLayout>

MainActivity.java

package com.example.slip19;  
  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.ImageView;  
import android.widget.TextView;  
import android.widget.ToggleButton;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private ToggleButton toggleButton;  
 private ImageView bulbImage;  
 private TextView bulbStatus;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 toggleButton = findViewById(R.id.toggleButton);  
 bulbImage = findViewById(R.id.bulbImage);  
 bulbStatus = findViewById(R.id.bulbStatus);  
  
 // Set the initial state of the bulb to OFF  
 bulbImage.setImageResource(R.drawable.bulb\_off);  
 bulbStatus.setText("Bulb is OFF");  
  
 // Set a listener for the toggle button  
 toggleButton.setOnCheckedChangeListener((buttonView, isChecked) -> {  
 if (isChecked) {  
 // Bulb is ON  
 bulbImage.setImageResource(R.drawable.bulb\_on); // Change to bulb on image  
 bulbStatus.setText("Bulb is ON"); // Update the text  
 } else {  
 // Bulb is OFF  
 bulbImage.setImageResource(R.drawable.bulb\_off); // Change to bulb off image  
 bulbStatus.setText("Bulb is OFF"); // Update the text  
 }  
 });  
 }  
}

slip 20

Q1.Create Android Program to Change the Image on the Screen.

(to run this program download 2 images from google copy it and paste it in res->drawable folder . with name image1 and image2)[10 mark]

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<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">  
  
 <ImageView  
 android:id="@+id/imageView"  
 android:layout\_width="300dp"  
 android:layout\_height="300dp"  
 android:src="@drawable/image1"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="100dp"/>  
  
 <Button  
 android:id="@+id/changeImageButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Change Image"  
 android:layout\_below="@id/imageView"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="20dp"/>  
  
</RelativeLayout>

ActivityMain.java

package com.example.myapplication;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ImageView;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private ImageView imageView;  
 private Button changeImageButton;  
 private boolean isImage1 = true; // Flag to keep track of the current image  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize the views  
 imageView = findViewById(R.id.*imageView*);  
 changeImageButton = findViewById(R.id.*changeImageButton*);  
  
 // Set a click listener for the button  
 changeImageButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Check the current image and switch it  
 if (isImage1) {  
 imageView.setImageResource(R.drawable.*image2*); // Change to image2  
 } else {  
 imageView.setImageResource(R.drawable.*image1*); // Change back to image1  
 }  
 // Toggle the flag  
 isImage1 = !isImage1;  
 }  
 });  
 }  
}

Q2[20 Marks]

Demonstrate Array Adapter using List View to display list of Country.

MainActivity.java

package com.example.myapplication;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // List of countries  
 String[] countries = {  
 "United States",  
 "Canada",  
 "Australia",  
 "India",  
 "China",  
 "Germany",  
 "France",  
 "United Kingdom",  
 "Japan",  
 "Brazil"  
 };  
  
 // Find the ListView by ID  
 ListView countryListView = findViewById(R.id.*countryListView*);  
  
 // Create an ArrayAdapter to bind the array of countries to the ListView  
 ArrayAdapter<String> adapter = new ArrayAdapter<>(  
 this,  
 android.R.layout.*simple\_list\_item\_1*, // Built-in layout for single list item  
 countries // Array of country names  
 );  
  
 // Set the adapter to the ListView  
 countryListView.setAdapter(adapter);  
  
 // Set an OnItemClickListener to handle click events on list items  
 countryListView.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
 @Override  
 public void onItemClick(AdapterView<?> parent, View view, int position, long id) {  
 // Get the country name from the clicked item  
 String selectedCountry = (String) parent.getItemAtPosition(position);  
 // Show a toast with the selected country name  
 Toast.*makeText*(MainActivity.this, "Selected: " + selectedCountry, Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<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">  
  
 <ListView  
 android:id="@+id/countryListView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent" />  
</RelativeLayout>