

1.Create a Application Which will Send —Hello message from one activity to another with help of Button (Use Intent)

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:padding="16dp"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello, World!"
        android:textSize="24sp"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"
        android:layout_marginBottom="16dp"/>
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send Message"
        android:layout_below="@id/textView"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.helloworld;
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 {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button button = findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                String message = "Hello, from MainActivity!";
                Intent intent = new Intent(MainActivity.this, MainActivity2.class);
                intent.putExtra("message", message);
                startActivity(intent);
            }
        });
    }
}
```

activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:padding="16dp"
    tools:context=".MainActivity2">
    <TextView
        android:id="@+id/receivedMessage"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="24sp"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"/>
</RelativeLayout>
```

MainActivity2.java

```
package com.example.helloworld;
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);
        TextView receivedMessageTextView =
            findViewById(R.id.receivedMessage);
        // Get the message from the Intent
        Intent intent = getIntent();
        if (intent != null && intent.hasExtra("message")) {
            String message = intent.getStringExtra("message");
            receivedMessageTextView.setText(message);
        }
    }
}
```

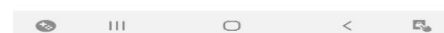
Output:



Hello, World!

SEND MESSAGE

Hello, from MainActivity!



2.Create application with Login Screen. On successful login, gives message go to next Activity (Without Using Database).

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:padding="16dp"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/usernameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"/>
    <EditText
        android:id="@+id/passwordEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword"
        android:layout_below="@id/usernameEditText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"/>
    <Button
        android:id="@+id/loginButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:layout_below="@id/passwordEditText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"/>
    <TextView
        android:id="@+id/errorTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:layout_below="@id/loginButton"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.loginmy;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
```

```

import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private EditText usernameEditText;
    private EditText passwordEditText;
    private TextView errorTextView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        usernameEditText = findViewById(R.id.usernameEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
        errorTextView = findViewById(R.id.errorTextView);
        Button loginButton = findViewById(R.id.loginButton);
        loginButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = usernameEditText.getText().toString();
                String password = passwordEditText.getText().toString();
                if (username.equals("your_username") &&
password.equals("your_password")) {
                    // Successful login, navigate to the next activity
                    Intent intent = new Intent(MainActivity.this,
NextActivity.class);
                    startActivity(intent);
                } else {
                    // Display an error message
                    errorTextView.setText("Invalid credentials. Please try
again.");
                }
            }
        });
    }
}

```

activitynext.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=".NextActivity">
</androidx.constraintlayout.widget.ConstraintLayout>

```

NextActivity.java

```

package com.example.loginmy;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
public class NextActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_next);
    }
}

```

Output:



Username

Password

LOGIN



shree

LOGIN

Invalid credentials. Please try again.



3. 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 when user click on Submit button.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:padding="16dp"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/firstNameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_marginTop="99dp"
        android:hint="First Name" />

    <EditText
        android:id="@+id/middleNameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/lastNameEditText"
        android:layout_marginBottom="29dp"
        android:hint="Middle Name" />

    <EditText
        android:id="@+id/lastNameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/emailEditText"
        android:layout_marginBottom="52dp"
        android:hint="Last Name" />

    <EditText
        android:id="@+id/dobEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/submitButton"
        android:layout_marginBottom="557dp"
        android:hint="Date of Birth" />

    <EditText
        android:id="@+id/addressEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/submitButton"
        android:layout_marginBottom="557dp"
        android:hint="Address" />

    <EditText
        android:id="@+id/emailEditText"
        android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:layout_above="@+id/firstNameEditText"
        android:layout_marginBottom="-401dp"
        android:hint="Email ID" />

<Button
    android:id="@+id/submitButton"
    android:layout_width="137dp"
    android:layout_height="wrap_content"
    android:layout_below="@+id/emailEditText"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_marginStart="152dp"
    android:layout_marginLeft="152dp"
    android:layout_marginTop="602dp"
    android:layout_marginEnd="137dp"
    android:layout_marginRight="137dp"
    android:text="Submit"
    tools:ignore="UnknownId" />
</RelativeLayout>

MainActivity.java
package com.example.newreg;
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 firstNameEditText, middleNameEditText,
lastNameEditText, dobEditText, addressEditText, emailEditText;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        firstNameEditText = findViewById(R.id.firstNameEditText);
        middleNameEditText = findViewById(R.id.middleNameEditText);
        lastNameEditText = findViewById(R.id.lastNameEditText);
        dobEditText = findViewById(R.id.dobEditText);
        addressEditText = findViewById(R.id.addressEditText);
        emailEditText = findViewById(R.id.emailEditText);
        Button submitButton = findViewById(R.id.submitButton);
        submitButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Get student information from EditText fields
                String firstName = firstNameEditText.getText().toString();
                String middleName =
middleNameEditText.getText().toString();
                String lastName = lastNameEditText.getText().toString();
                String dob = dobEditText.getText().toString();
                String address = addressEditText.getText().toString();
                String email = emailEditText.getText().toString();
                // Create an Intent to pass data to the second activity
                Intent intent = new Intent(MainActivity.this,
DisplayInfoActivity.class);
                // Put student information as extras in the Intent

```

```

        intent.putExtra("firstName", firstName);
        intent.putExtra("middleName", middleName);
        intent.putExtra("lastName", lastName);
        intent.putExtra("dob", dob);
        intent.putExtra("address", address);
        intent.putExtra("email", email);
        // Start the second activity
        startActivity(intent);
    }
});
}
}

```

activity_display_info.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
    android:padding="16dp"
    tools:context=".DisplayInfoActivity">
    <TextView
        android:id="@+id/displayInfoTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="18sp"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"/>
</RelativeLayout>

```

DisplayInfoActivity.java

```

package com.example.newreg;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class DisplayInfoActivity extends AppCompatActivity {
    private TextView displayInfoTextView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_display_info);
        displayInfoTextView = findViewById(R.id.displayInfoTextView);
        // Get student information from the Intent
        Intent intent = getIntent();
        if (intent != null) {
            String firstName = intent.getStringExtra("firstName");
            String middleName = intent.getStringExtra("middleName");
            String lastName = intent.getStringExtra("lastName");
            String dob = intent.getStringExtra("dob");
            String address = intent.getStringExtra("address");
            String email = intent.getStringExtra("email");
            // Display the student information in the TextView
            String studentInfo = "Name: " + firstName + " " + middleName +
                " " + lastName + "\n"
                + "Date of Birth: " + dob + "\n"
                + "Address: " + address + "\n"
                + "Email: " + email;

```



```

        displayInfoTextView.setText(studentInfo);
    }
}
}

```

Output::

Name: shreyas sandeep narke
 Date of Birth:
 Address:
 Email: narkesthreyas4@gmail.com

4. Create a "Contact" layout to hold multiple pieces of information, including: Photo, Name, Contact Number, E-mail id.

MainActivity.java

```
package com.example.cont;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.widget.ImageView;
import android.widget.RelativeLayout;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    RelativeLayout contactContainer = findViewById(R.id.contactContainer);
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        for (int i = 0; i < 5; i++) {
            View contactView =
LayoutInflater.from(this).inflate(R.layout.activity_main, contactContainer,
false);
            ImageView contactPhoto =
contactView.findViewById(R.id.contactPhoto);
            TextView contactName =
contactView.findViewById(R.id.contactName);
            TextView contactNumber =
contactView.findViewById(R.id.contactNumber);
            TextView contactEmail =
contactView.findViewById(R.id.contactEmail);
            contactName.setText("Pranav Darekar" + (i + 1));
            contactNumber.setText("9307301505" + i);
            contactEmail.setText("darekarappa" + i + "@gmail.com");
            contactContainer.addView(contactView);
        }
    }
}
```

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="wrap_content"
    android:padding="16dp"
    android:id="@+id/contactContainer">
    <ImageView
        android:id="@+id/contactPhoto"
        android:layout_width="64dp"
        android:layout_height="64dp"
        android:layout_alignParentStart="true"/>
    <!--          android:src="@drawable/default_contact_image" />-->

    <TextView
        android:id="@+id/contactName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="112dp"
        android:layout_toEndOf="@id/contactPhoto"
```

```

        android:text="Pranav Darekar"
        android:textSize="18sp" />

<TextView
    android:id="@+id/contactNumber"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/contactName"
    android:layout_marginStart="123dp"
    android:layout_marginTop="3dp"
    android:layout_toEndOf="@id/contactPhoto"
    android:text="94518542121"
    android:textSize="16sp" />

<TextView
    android:id="@+id/contactEmail"
    android:layout_width="wrap_content"
    android:layout_height="40dp"
    android:layout_below="@id/contactNumber"
    android:layout_marginStart="85dp"
    android:layout_marginTop="1dp"
    android:layout_toEndOf="@id/contactPhoto"
    android:text="appadarekar@gmail.com"
    android:textSize="16sp" />
</RelativeLayout>

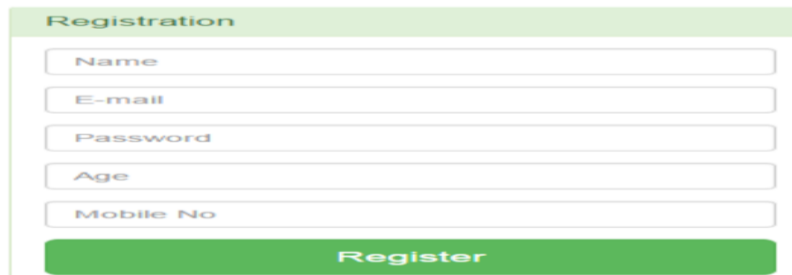
```

Output:

Cont

*Pranav Darekar
94518542121
appadarekar@gmail.com*

5. Create registration form given below. Also perform appropriate validation.

A registration form with a green header bar labeled "Registration". Below the header are five white input fields with green borders, labeled "Name", "E-mail", "Password", "Age", and "Mobile No". At the bottom is a green button labeled "Register".

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/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name" />
    <EditText
        android:id="@+id/editTextAge"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Age"
        android:inputType="number" />
    <EditText
        android:id="@+id/editTextEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email"
        android:inputType="textEmailAddress" />
    <EditText
        android:id="@+id/editTextDOB"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Date of Birth"
        android:inputType="date" />
    <Button
        android:id="@+id/buttonRegister"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Register" />
</LinearLayout>
```

MainActivity.java

```
package com.example.basicreg;
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, editTextAge, editTextEmail, editTextDOB;
```

```

private Button buttonRegister;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    editTextName = findViewById(R.id.editTextName);
    editTextAge = findViewById(R.id.editTextAge);
    editTextEmail = findViewById(R.id.editTextEmail);
    editTextDOB = findViewById(R.id.editTextDOB);
    buttonRegister = findViewById(R.id.buttonRegister);
    buttonRegister.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String name = editTextName.getText().toString().trim();
            String ageStr = editTextAge.getText().toString().trim();
            String email = editTextEmail.getText().toString().trim();
            String dob = editTextDOB.getText().toString().trim();
            if (name.isEmpty() || ageStr.isEmpty() || email.isEmpty()
|| dob.isEmpty()) {
                showToast("Please fill in all fields.");
            } else {
                int age = Integer.parseInt(ageStr);
                if (age < 18 || age > 100) {
                    showToast("Age must be between 18 and 100.");
                } else if (!isEmailValid(email)) {
                    showToast("Invalid email address.");
                } else {
                    showToast("Registration successful!");
                }
            }
        }
    });
}

private boolean isEmailValid(String email) {
    return
android.util.Patterns.EMAIL_ADDRESS.matcher(email).matches();
}

private void showToast(String message) {
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
}
}

```

Output::



BasicReg

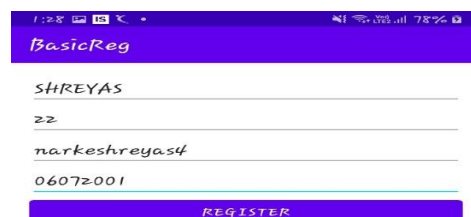
SHREYAS

22

narkeshreyas4@gmail.com

06072001

REGISTER



BasicReg

SHREYAS

22

narkeshreyas4

06072001

REGISTER

Invalid email address.



6. Construct an app to display the image.

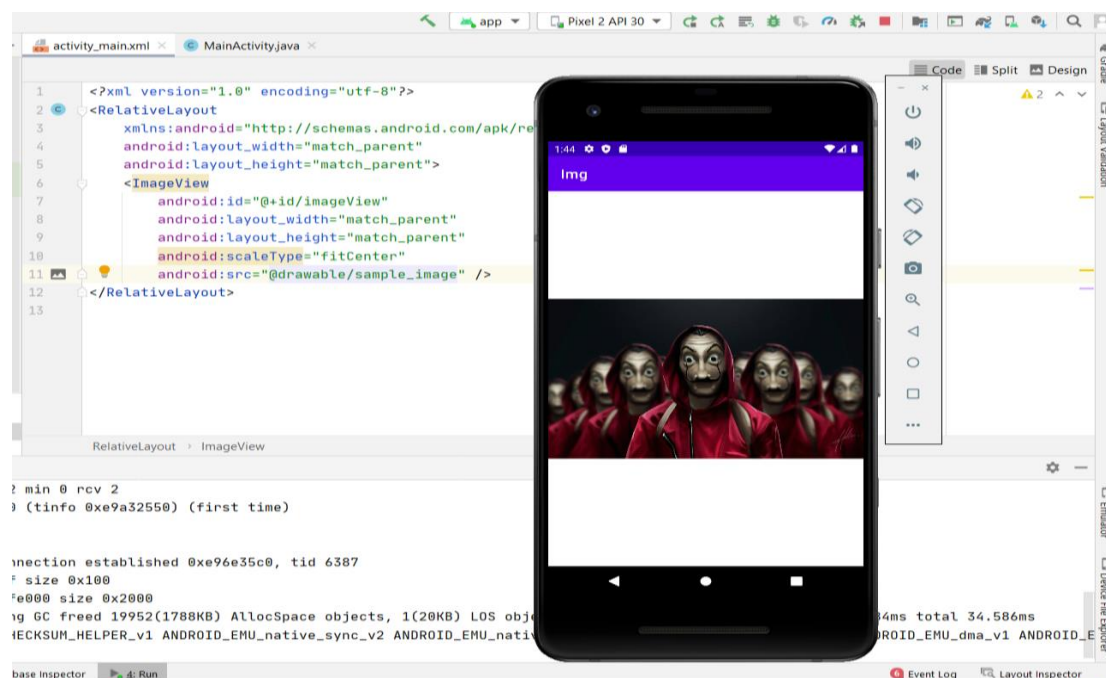
activity_main.xml

```
<?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">
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:scaleType="fitCenter"
        android:src="@drawable/sample_image" />
</RelativeLayout>
```

MainActivity.java

```
package com.example.img;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

Output::



7. Construct a bank app to display different menu like withdraw, deposit etc.

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">
    <Button
        android:id="@+id/btnWithdraw"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Withdraw" />
    <Button
        android:id="@+id/btnDeposit"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Deposit" />
</LinearLayout>
```

MainActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.basicbank1"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="19"
        android:targetSdkVersion="34" />

    <permission
        android:name="com.example.basicbank1.DYNAMIC_RECEIVER_NOT_EXPORTED_PERMISSION"
        android:protectionLevel="signature" />

    <uses-permission
        android:name="com.example.basicbank1.DYNAMIC_RECEIVER_NOT_EXPORTED_PERMISSION" />

    <application
        android:allowBackup="true"
        android:appComponentFactory="androidx.core.app.CoreComponentFactory"
        android:debuggable="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:testOnly="true"
        android:theme="@style/Theme.Basicbank1" >
        <activity
            android:name="com.example.basicbank1.MainActivity"
            android:exported="" >
            <intent-filter>
```

```

        <action android:name="android.intent.action.MAIN" />

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

<provider
    android:name="androidx.startup.InitializationProvider"
    android:authorities="com.example.basicbank1.androidx-startup"
    android:exported="false" >
    <meta-data
        android:name="androidx.emoji2.text.EmojiCompatInitializer"
        android:value="androidx.startup" />
    <meta-data
        android:name="androidx.lifecycle.ProcessLifecycleInitializer"
        android:value="androidx.startup" />
    </provider>
</application>

</manifest>

```

Output:



Withdraw button clicked



8. Construct a register app to display different menu like add, delete, edit etc.

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">
    <Button
        android:id="@+id/btnAddUser"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Add User" />
    <Button
        android:id="@+id/btnDeleteUser"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Delete User" />
    <Button
        android:id="@+id/btnEditUser"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Edit User" />
</LinearLayout>
```

MainActivity.java

```
package com.example.registrationopt;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import androidx.appcompat.app.AppCompatActivity;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btnAddUser = findViewById(R.id.btnAddUser);
        Button btnDeleteUser = findViewById(R.id.btnDeleteUser);
        Button btnEditUser = findViewById(R.id.btnEditUser);
        btnAddUser.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                openAddUserActivity();
            }
        });
        btnDeleteUser.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
            }
            public void toEditUserActivity() {
                openDeleteUserActivity();
            }
        });
        btnEditUser.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                openEditUserActivity();
            }
        });
    }
}
```

```

        }
    });
}
private void openAddUserActivity() {
    Intent intent = new Intent(this, AddUserActivity.class);
    startActivity(intent);
}
private void openDeleteUserActivity() {
    Intent intent = new Intent(this, DeleteUserActivity.class);
    startActivity(intent);
}
private void openEditUserActivity() {
    Intent intent = new Intent(this, EditUserActivity.class);
    startActivity(intent);
}
}
}

```

activity_add_user.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/edtName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name" />
    <EditText
        android:id="@+id/edtEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email" />
    <Button
        android:id="@+id/btnAddUser"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Add User" />
</LinearLayout>

```

AddUserActivity.java

```

package com.example.registrationopt;
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 AddUserActivity extends AppCompatActivity {
    private EditText edtName;
    private EditText edtEmail;
    private Button btnAddUser;
    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_add_user);
edtName = findViewById(R.id.edtName);
edtEmail = findViewById(R.id.edtEmail);
btnAddUser = findViewById(R.id.btnAddUser);
btnAddUser.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String name = edtName.getText().toString();
        String email = edtEmail.getText().toString();
        //db
        Toast.makeText(AddUserActivity.this, "User added: " + name, Toast.LENGTH_SHORT).show();
    }
});
}
}

```

DeleteUserActivity.java

```

package com.example.registrationopt;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class DeleteUserActivity extends AppCompatActivity {
    private ListView userList;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_delete_user);
        userList = findViewById(R.id.userList);
        String[] users = new String[]{"User 1", "User 2", "User 3"};
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
        android.R.layout.simple_list_item_1, users);
        userList.setAdapter(adapter);
        userList.setOnItemClickListener(new
        AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int
            position, long id) {
                String selectedUser = (String)
                parent.getItemAtPosition(position);
                //db
                Toast.makeText(DeleteUserActivity.this, "User deleted: " +
                selectedUser, Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

EditUserActivity.java

```
package com.example.registrationopt;
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 EditUserActivity extends AppCompatActivity {
    private EditText edtEditedName;
    private EditText edtEditedEmail;
    private Button btnEditUser;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_edit_user);
        edtEditedName = findViewById(R.id.edtEditedName);
        edtEditedEmail = findViewById(R.id.edtEditedEmail);
        btnEditUser = findViewById(R.id.btnEditUser);
        btnEditUser.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String editedName = edtEditedName.getText().toString();
                String editedEmail = edtEditedEmail.getText().toString();
                //db
                Toast.makeText(EditUserActivity.this, "User updated: " +
editedName, Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

output::

Registrationopt

ADD USER

DELETE USER

EDIT USER

Registrationopt

SHREYAS

narkeshreyas@gmail.com

ADD USER

4:37 15 • VoWiFi 100%

Registrationopt

shreyas

narkeshreyas4@gmail.com

EDIT USER

User added: SHREYAS

User updated: shreyas

9.Create application to send and receive messages using SMS Manager.

MainActivity.java

```
package com.example.sms;
import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private static final int MY_PERMISSIONS_REQUEST_SEND_SMS=0;
    Button button;
    EditText Text1,Text2;
    String phone,message;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button=(Button)findViewById(R.id.sndbtn);
        Text1=(EditText)findViewById(R.id.text1);
        Text2=(EditText)findViewById(R.id.text2);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                sendSMSMessage();
            }
        });
    }
    protected void sendSMSMessage(){
        phone = Text1.getText().toString();
        message = Text2.getText().toString();
        if (ContextCompat.checkSelfPermission(this,
            Manifest.permission.SEND_SMS)
            != PackageManager.PERMISSION_GRANTED) {
            if (ActivityCompat.shouldShowRequestPermissionRationale(this,
                Manifest.permission.SEND_SMS)) {
            } else {
                ActivityCompat.requestPermissions(this,
                    new String[]{Manifest.permission.SEND_SMS},
                    MY_PERMISSIONS_REQUEST_SEND_SMS);
            }
        }
    }
    public void onRequestPermissionsResult(int requestCode,String
permissions[], int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        switch (requestCode) {
            case MY_PERMISSIONS_REQUEST_SEND_SMS: {
                if (grantResults.length > 0
                    && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                    SmsManager smsManager = SmsManager.getDefault();
                    smsManager.sendTextMessage(phone, null, message, null,
null);
                    Toast.makeText(getApplicationContext(), "SMS sent.",
```

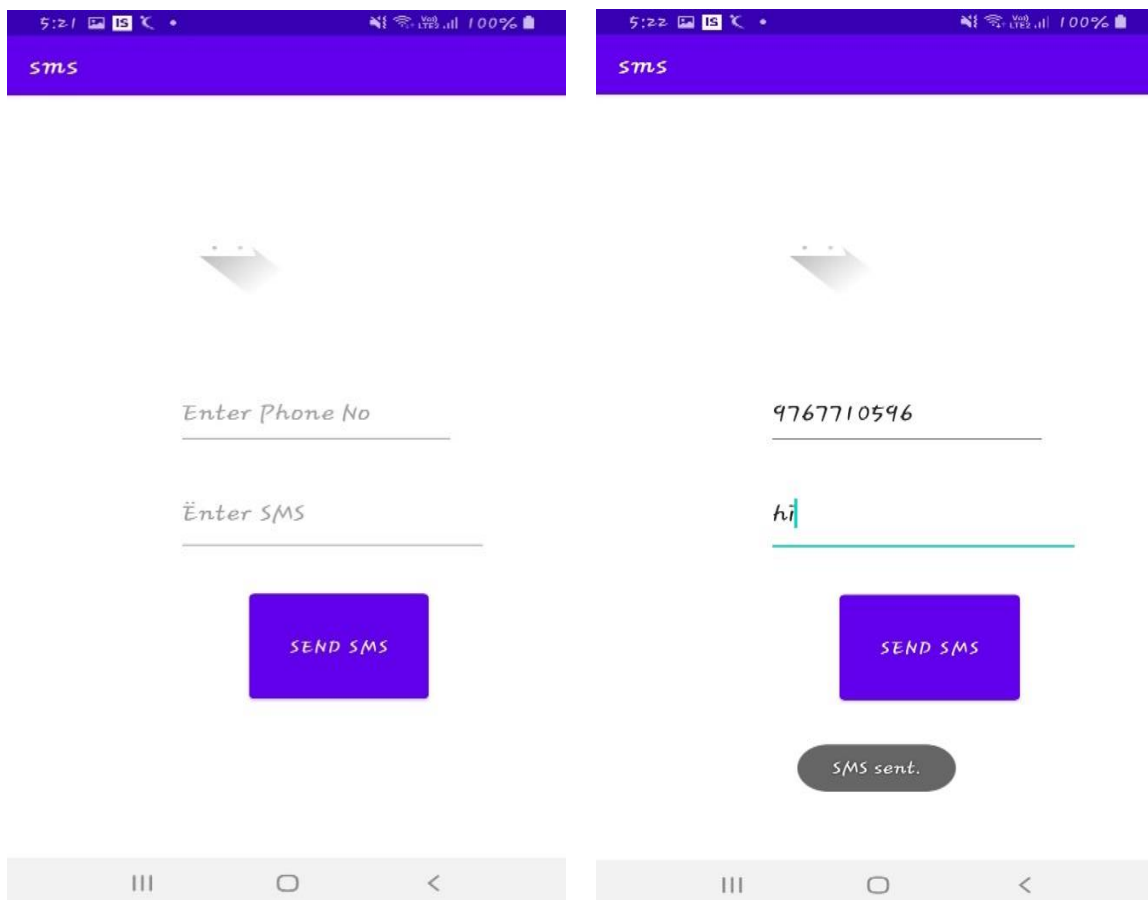


```

        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="125dp"
        android:layout_marginLeft="125dp"
        android:layout_marginTop="356dp"
        android:layout_marginEnd="57dp"
        android:layout_marginRight="57dp"
        android:layout_marginBottom="286dp"
        android:hint="Enter SMS"/>
<Button
    android:id="@+id/sndbtn"
    android:layout_width="132dp"
    android:layout_height="110dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="178dp"
    android:layout_marginLeft="178dp"
    android:layout_marginEnd="101dp"
    android:layout_marginRight="101dp"
    android:layout_marginBottom="144dp"
    android:text="Send SMS" />
</RelativeLayout>

```

Output::



10.Create application to design login form, validate it. Write and send email with appropriate message

Loginactivity.java

```
package com.example.email;
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 LoginActivity extends AppCompatActivity {
    private EditText edtUsername;
    private EditText edtPassword;
    private Button btnLogin;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
        edtUsername = findViewById(R.id.edtUsername);
        edtPassword = findViewById(R.id.edtPassword);
        btnLogin = findViewById(R.id.btnLogin);
        btnLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String username = edtUsername.getText().toString();
                String password = edtPassword.getText().toString();
                if (isValid(username, password)) {
                    sendEmail(username);
                } else {
                    showError("Invalid credentials. Please try again.");
                }
            }
        });
    }
    private boolean isValid(String username, String password) {
        return username.equals("user") && password.equals("password");
    }
    private void sendEmail(String username) {
        String recipientEmail = "recipient@example.com";
        String subject = "Login Successful";
        String message = "Hello " + username + ", you have successfully logged in.";
        Intent emailIntent = new Intent(Intent.ACTION_SEND);
        emailIntent.setType("message/rfc822");
        emailIntent.putExtra(Intent.EXTRA_EMAIL, new
String[]{recipientEmail});
        emailIntent.putExtra(Intent.EXTRA_SUBJECT, subject);
        emailIntent.putExtra(Intent.EXTRA_TEXT, message);
        startActivity(Intent.createChooser(emailIntent, "Send Email"));
    }
    private void showError(String errorMessage) {
    }
}
```

activity_login.xml

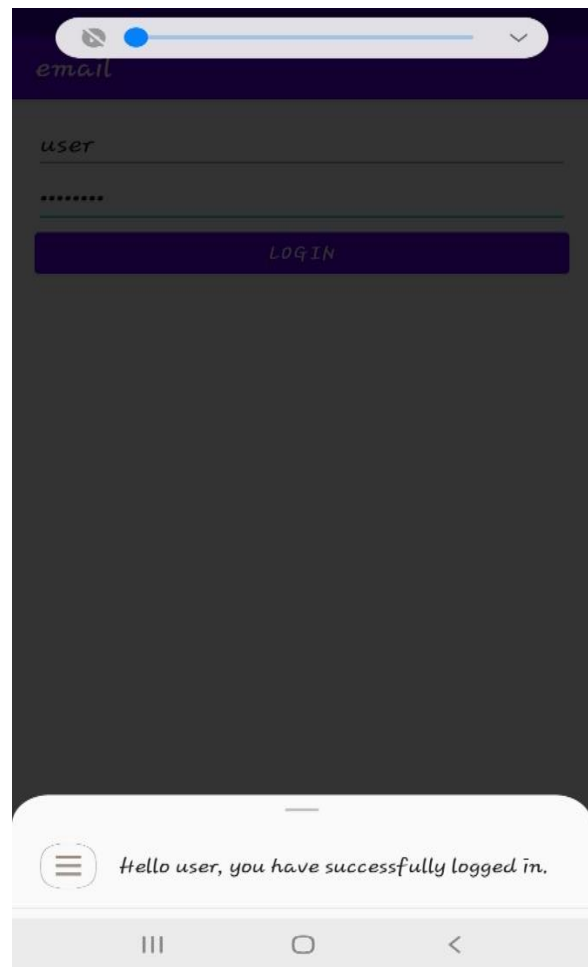
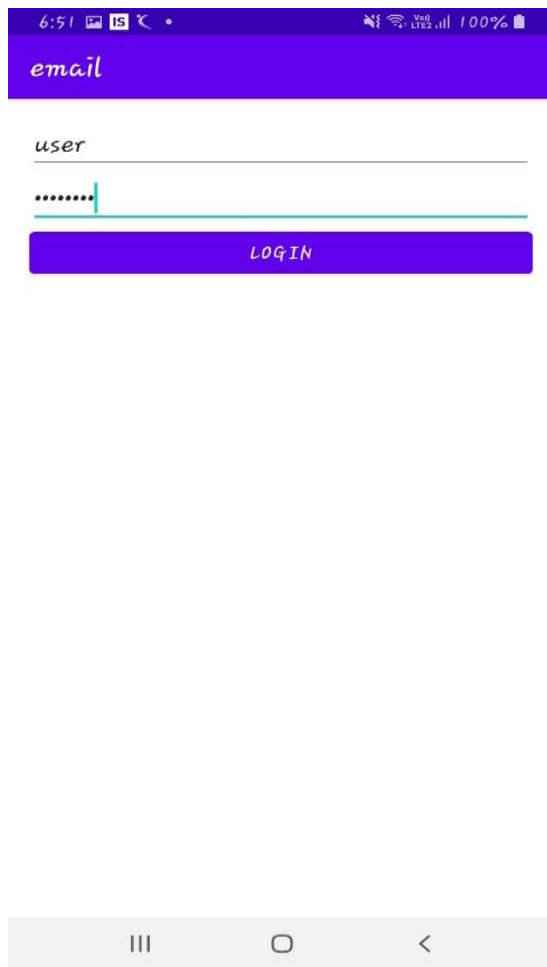
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
```

```

        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:padding="16dp">
        <EditText
            android:id="@+id/edtUsername"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Username" />
        <EditText
            android:id="@+id/edtPassword"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Password"
            android:inputType="textPassword" />
        <Button
            android:id="@+id/btnLogin"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Login" />
    </LinearLayout>

```

Output::



11. Write a program to calculate distance between two locations on Google Map.

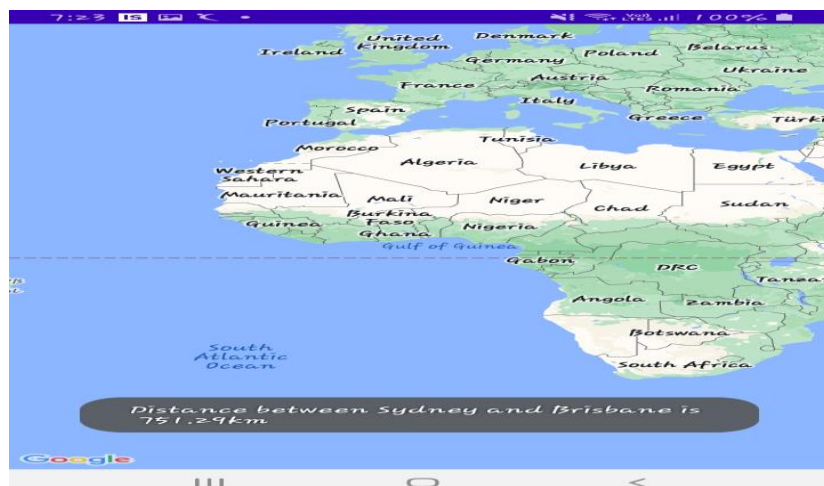
MapsActivity.java

```
package com.example.mygoogleapp;
import android.os.Bundle;
import android.widget.Toast;
import androidx.fragment.app.FragmentActivity;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.maps.android.SphericalUtil;
public class MapsActivity extends FragmentActivity implements
OnMapReadyCallback {
    private GoogleMap mMap;
    LatLng sydney = new LatLng(-34, 151);
    LatLng Brisbane = new LatLng(-27.470125, 153.021072);
    Double distance;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        SupportMapFragment mapFragment = (SupportMapFragment)
getSupportFragmentManager().findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);
    }
    @Override
    public void onMapReady(GoogleMap googleMap) {
        mMap = googleMap;
        distance = SphericalUtil.computeDistanceBetween(sydney, Brisbane);
        Toast.makeText(this, "Distance between Sydney and Brisbane is \n "
+ String.format("%.2f", distance / 1000) + "km",
Toast.LENGTH_SHORT).show();
    }
}
```

google_maps_api.xml

```
<resources>
    <string name="google_maps_key" templateMergeStrategy="preserve"
translatable="false">AIzaSyABBNQ_nROar_bPkVx5iWtFLwha2utqEsM</string>
</resources>
```

Output::



12. Write a program to search a specific location on Google Map

activity_maps.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".MapsActivity">
    <AutoCompleteTextView
        android:id="@+id/autoCompleteTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Search for a location"
        android:layout_marginBottom="16dp"/>
    <com.google.android.gms.maps.MapView
        android:id="@+id/mapView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_gravity="center"/>
</LinearLayout>
```

MapsActivity.java

```
package com.example.mygoogleapp;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.AutoCompleteTextView;
import com.google.android.gms.common.api.Status;
import com.google.android.gms.location.places.ui.PlaceAutocomplete;
import com.google.android.gms.location.places.ui.PlaceAutocompleteFragment;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.MapView;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;

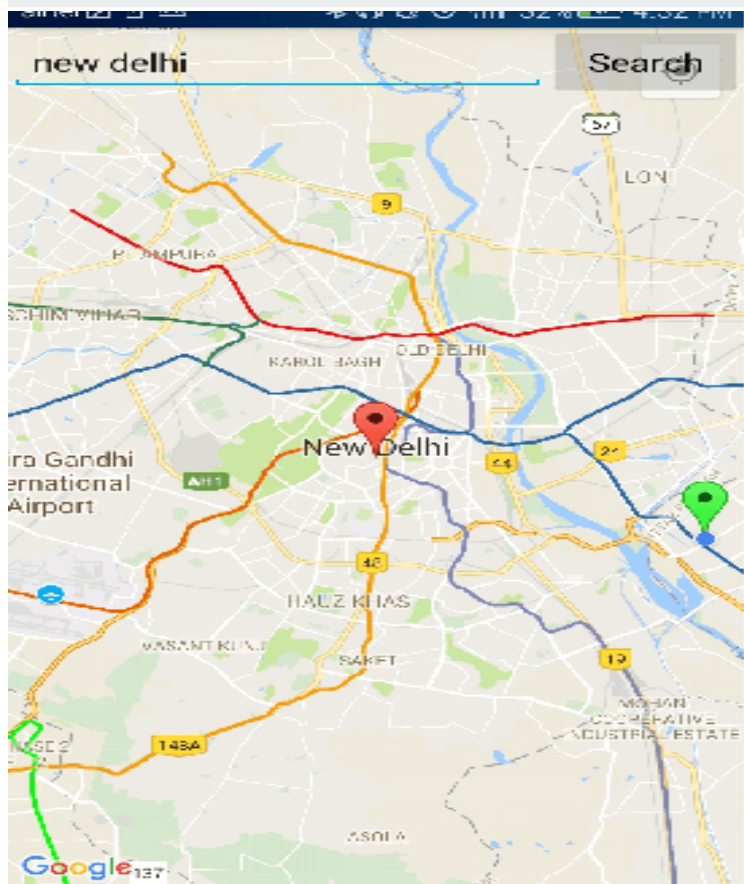
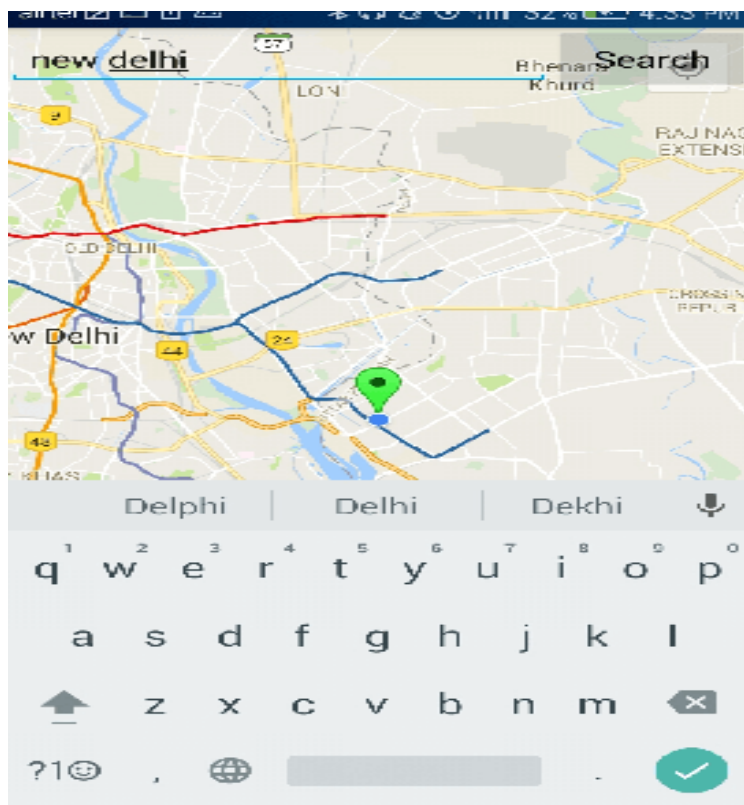
public class MainActivity extends AppCompatActivity implements
    OnMapReadyCallback {
    private AutoCompleteTextView autoCompleteTextView;
    private GoogleMap mMap;
    private MapView mapView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        autoCompleteTextView = findViewById(R.id.autoCompleteTextView);
        mapView = findViewById(R.id.mapView);
        mapView.onCreate(savedInstanceState);
        mapView.getMapAsync(this);
        PlaceAutocompleteFragment autoCompleteFragment =
            (PlaceAutocompleteFragment)
```

```

getFragmentManager().findFragmentById(R.id.place_autocomplete_fragment);
    autocompleteFragment.setOnPlaceSelectedListener(new
PlaceAutocompleteFragment.OnPlaceSelectedListener() {
    @Override
    public void
onPlaceSelected(com.google.android.gms.location.places.Place place) {
        LatLng location = place.getLatLng();
        mMap.clear();
        mMap.addMarker(new
MarkerOptions().position(location).title(place.getName().toString()));
        mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(location,
14));
    }
    @Override
    public void onError(Status status) {
        // Handle any errors
    }
});
}
@Override
public void onMapReady(GoogleMap googleMap) {
    mMap = googleMap;
}
@Override
public void onResume() {
    mapView.onResume();
    super.onResume();
}
@Override
public void onPause() {
    mapView.onPause();
    super.onPause();
}
@Override
public void onDestroy() {
    mapView.onDestroy();
    super.onDestroy();
}
@Override
public void onLowMemory() {
    super.onLowMemory();
    mapView.onLowMemory();
}
}

```

output:



13. Create Table project (pno, p_name, ptype, duration) and employee (id, e_name, qualification, joindate) Project – employee have many to many relationship. Using database perform following operation. 1) Add new record into table. 2) Accept a project name from user and display information of employees working on the project

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">

    <uses-permission android:name="android.permission.INTERNET" />

    <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.Slip1_3"
        tools:targetApi="33">

        <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>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp"
        android:text="Student Details"
        android:textSize="30sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="110dp"
        android:text="Enter Rollno:"
        android:textSize="20sp" />
    <EditText
        android:id="@+id/Rollno"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="100dp"
        android:inputType="number"
        android:textSize="20sp" />
```



```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="160dp"
    android:text="Enter Name:"
    android:textSize="20sp" />
```

```
<EditText
    android:id="@+id/Name"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="150dp"
    android:inputType="text"
    android:textSize="20sp" />
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp"
    android:text="Enter Marks:"
    android:textSize="20sp" />
```

```
<EditText
    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
```

```
        android:textSize="20sp" />
```

```
<Button
```

```
    android:id="@+id/Insert"
```

```
    android:layout_width="150dp"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_x="25dp"
```

```
    android:layout_y="300dp"
```

```
    android:text="Insert"
```

```
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/Delete"
```

```
    android:layout_width="150dp"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_x="200dp"
```

```
    android:layout_y="300dp"
```

```
    android:text="Delete"
```

```
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/Update"
```

```
    android:layout_width="150dp"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_x="25dp"
```

```
    android:layout_y="400dp"
```

```
    android:text="Update"
```

```
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/View"
```

```
    android:layout_width="150dp"
```

```
    android:layout_height="wrap_content"
```

```

        android:layout_x="200dp"
        android:layout_y="400dp"
        android:text="View"
        android:textSize="30dp" />
<Button
    android:id="@+id/ViewAll"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:layout_x="100dp"
    android:layout_y="500dp"
    android:text="View All"
    android:textSize="30dp" />
</AbsoluteLayout>

```

MainActivity.java

```

package com.example.slip1_3;

import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener
{

```

```

EditText Rollno,Name,Marks;

Button Insert,Delete,Update,View,ViewAll;

SQLiteDatabase db;

/** Called when the activity is first created. */

@Override

public void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Rollno=(EditText)findViewById(R.id.Rollno);
    Name=(EditText)findViewById(R.id.Name);
    Marks=(EditText)findViewById(R.id.Marks);
    Insert=(Button)findViewById(R.id.Insert);
    Delete=(Button)findViewById(R.id.Delete);
    Update=(Button)findViewById(R.id.Update);
    View=(Button)findViewById(R.id.View);
    ViewAll=(Button)findViewById(R.id.ViewAll);
    Insert.setOnClickListener(this);
    Delete.setOnClickListener(this);
    Update.setOnClickListener(this);
    View.setOnClickListener(this);
    ViewAll.setOnClickListener(this);

    // Creating database and table
    db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);

    db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name
VARCHAR,marks VARCHAR);");
}

public void onClick(View view)
{
    // Inserting a record to the Student table

```

```

if(view==Insert)
{
    // Checking for empty fields
    if(Rollno.getText().toString().trim().length()==0 ||
        Name.getText().toString().trim().length()==0 ||
        Marks.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter all values");
        return;
    }
    db.execSQL("INSERT INTO student VALUES('"+Rollno.getText()+"','"+Name.getText()+"',
        '"+Marks.getText()+"');");
    showMessage("Success", "Record added");
    clearText();
}

// Deleting a record from the Student table
if(view==Delete)
{
    // Checking for empty roll number
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst())
    {
        db.execSQL("DELETE FROM student WHERE rollno='"+Rollno.getText()+"'");
        showMessage("Success", "Record Deleted");
    }
}

```

```

    }
    else
    {
        showMessage("Error", "Invalid Rollno");
    }
    clearText();
}
// Updating a record in the Student table
if(view==Update)
{
    // Checking for empty roll number
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst()) {

        db.execSQL("UPDATE student SET name='"+ Name.getText() + "',marks='"+
Marks.getText() +

        "' WHERE rollno='"+Rollno.getText()+"'");
        showMessage("Success", "Record Modified");
    }
    else {
        showMessage("Error", "Invalid Rollno");
    }
    clearText();
}
// Display a record from the Student table

```

```

if(view==View)
{
    // Checking for empty roll number
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst())
    {
        Name.setText(c.getString(1));
        Marks.setText(c.getString(2));
    }
    else
    {
        showMessage("Error", "Invalid Rollno");
        clearText();
    }
}

// Displaying all the records
if(view==ViewAll)
{
    Cursor c=db.rawQuery("SELECT * FROM student", null);

    if(c.getCount()==0)
    {
        showMessage("Error", "No records found");
        return;
    }
}

```

```

        StringBuffer buffer=new StringBuffer();
        while(c.moveToNext())
        {
            buffer.append("Rollno: "+c.getString(0)+"\n");
            buffer.append("Name: "+c.getString(1)+"\n");
            buffer.append("Marks: "+c.getString(2)+"\n\n");
        }
        showMessage("Student Details", buffer.toString());
    }
}

public void showMessage(String title,String message)
{
    Builder builder=new Builder(this);
    builder.setCancelable(true);
    builder.setTitle(title);
    builder.setMessage(message);
    builder.show();
}

public void clearText()
{
    Rollno.setText("");
    Name.setText("");
    Marks.setText("");
    Rollno.requestFocus();
}
}

```

Output:

8:27 AM | 3.0KB/s

Student Details

Enter Rollno:

Enter Name:

Enter Marks:

8:28 AM | 0.0KB/s

Student Details

Enter Rollno:

Enter Name:

Enter Marks:

Student Details
Rollno: 1
Name: Vaibhav
Marks: 500

1 2 3 -

4 5 6]

7 8 9 <X

, 0 . ✓

8:27 AM | 0.0KB/s

Student Details

Enter Rollno:

Enter Name:

Enter Marks:

Success
Record Deleted

8:27 AM | 0.1KB/s

Student Details

Enter Rollno:

Enter Name:

Enter Marks:

Success
Record added

14. Create application using JSON which gives us list of contacts where each node contains contact information like name, email, address, gender and phone numbers.

MainActivity.java

```
package com.example.contactlist;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.widget.ListView;
import android.widget.SimpleAdapter;
import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // Private string declared in the latter section of the program
        String jsonStr = getListData();
        try {
            // Create a userList string hashmap arraylist
            List<HashMap<String, String>> userList = new ArrayList<>();
            // Declaring the listView from the layout file
            ListView lv = findViewById(R.id.user_list);
            // Initializing the JSON object and extracting the information
            JSONObject jsonObj = new JSONObject(jsonStr);
            JSONArray jsonArray = jsonObj.getJSONArray("users");
            for (int i = 0; i < jsonArray.length(); i++) {
                HashMap<String, String> user = new HashMap<>();
                JSONObject obj = jsonArray.getJSONObject(i);
                user.put("name", obj.getString("name"));
                user.put("email", obj.getString("email"));
                user.put("address", obj.getString("address"));
                user.put("gender", obj.getString("gender"));
                user.put("phone", obj.getString("phone"));
                userList.add(user);
            }
            // ListAdapter to broadcast the information to the list elements
            SimpleAdapter adapter = new SimpleAdapter(
                this, userList, R.layout.list_row,
                new String[]{"name", "email", "address", "gender", "phone"},
                new int[]{R.id.name, R.id.email, R.id.address, R.id.gender, R.id.phone}
            );
            lv.setAdapter(adapter);
        } catch (JSONException ex) {
```

```

        Log.e("JsonParser Example", "unexpected JSON exception", ex);
    }
}
// JSON object in the form of input stream
private String getListData() {
    return "{ \"users\" :[" +
    "{\"name\":\"Ace\",\"email\":\"Engineer@123\",\"address\":\"pune\",\"gender\":\"male\",\"phone\":" +
    "\"123456789\"}"," +
    {"name\":\"Tom\",\"email\":\"Director@123\",\"address\":\"nashik\",\"gender\":\"male\",\"phon" +
    "e\":\"123456789\"}"," +
    {"name\":\"Tim\",\"email\":\"CharteredAccountant@123\",\"address\":\"mumbai\",\"gender\":\"m" +
    "ale\",\"phone\":\"123456789\"}"," +
    {"name\":\"cook\",\"email\":\"CharteredAccountant@123\",\"address\":\"baramati\",\"gender\":\"" +
    "male\",\"phone\":\"123456789\"}"," +
    {"name\":\"john\",\"email\":\"CharteredAccountant@123\",\"address\":\"pcmc\",\"gender\":\"fem" +
    "ale\",\"phone\":\"123456789\"}] }";
}
}

```

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
    <!--This listView will display the list items-->
    <ListView
        android:id="@+id/user_list"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:dividerHeight="1dp" />
</LinearLayout>

```

list_row.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="wrap_content"
    android:padding="5dp">
    <TextView
        android:id="@+id/phone2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```

        android:layout_below="@+id/gender"
        android:layout_alignParentStart="true"
        android:layout_marginStart="14dp"
        android:layout_marginTop="10dp"
        android:text="Phone"
        tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/name2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_marginStart="14dp"
    android:layout_marginTop="20dp"
    android:text="Name"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/name"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_marginStart="120dp"
    android:layout_marginTop="20dp"
    android:text="Name"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/name"
    android:layout_alignParentStart="true"
    android:layout_marginStart="120dp"
    android:layout_marginTop="10dp"
    android:text="Email"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/email2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/name"
    android:layout_alignParentStart="true"
    android:layout_marginStart="14dp"
    android:layout_marginTop="10dp"
    android:text="Email"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/address"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/email"
    android:layout_alignParentStart="true"
    android:layout_marginStart="120dp"

```

```

        android:layout_marginTop="10dp"
        android:text="Address"
        tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/address2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/email"
    android:layout_alignParentStart="true"
    android:layout_marginStart="14dp"
    android:layout_marginTop="10dp"
    android:text="Address"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/gender"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/address"
    android:layout_alignParentStart="true"
    android:layout_marginStart="120dp"
    android:layout_marginTop="10dp"
    android:text="Gender"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/gender2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/address"
    android:layout_alignParentStart="true"
    android:layout_marginStart="14dp"
    android:layout_marginTop="10dp"
    android:text="Gender"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/phone"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/gender"
    android:layout_alignParentStart="true"
    android:layout_marginStart="120dp"
    android:layout_marginTop="10dp"
    android:text="Phone"
    tools:ignore="HardcodedText" />
</RelativeLayout>

```

Output:

10:32

LOG WEB 4G 87%

Contactlist

Phone	123456789
Name	Tom
Email	Director@123
Address	nashik
Gender	male
Phone	123456789
Name	Tim
Email	CharteredAccountant@123
Address	mumbai
Gender	male
Phone	123456789
Name	cook
Email	CharteredAccountant@123
Address	baramati
Gender	male
Phone	123456789
Name	john
Email	CharteredAccountant@123
Address	pcmc
Gender	female
Phone	123456789

10:3216.0 KB/S WEB 4G 87%

Contactlist

Name	Ace
Email	Engineer@123
Address	pune
Gender	male
Phone	123456789

Name	Tom
Email	Director@123
Address	nashik
Gender	male
Phone	123456789

Name	Tim
Email	CharteredAccountant@123
Address	mumbai
Gender	male
Phone	123456789

Name	cook
Email	CharteredAccountant@123
Address	baramati
Gender	male
Phone	123456789

15. Create application using JSON which gives the Employee information.

MainActivity.java

```
package com.example.employee_details;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.widget.TextView;
import org.json.JSONException;
import org.json.JSONObject;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // Private string declared in the latter section of the program
        String jsonStr = getEmployeeData();
        try {
            // Initializing the JSON object and extracting the information for a single employee
            JSONObject employeeObj = new JSONObject(jsonStr);
            String name = employeeObj.getString("name");
            String email = employeeObj.getString("email");
            String address = employeeObj.getString("address");
            String gender = employeeObj.getString("gender");
            String phone = employeeObj.getString("phone");
            String companyName = employeeObj.getString("companyName");
            String joiningDate = employeeObj.getString("joiningDate");
            // Display the employee details in TextViews
            TextView nameTextView = findViewById(R.id.name);
            TextView emailTextView = findViewById(R.id.email);
            TextView addressTextView = findViewById(R.id.address);
            TextView genderTextView = findViewById(R.id.gender);
            TextView phoneTextView = findViewById(R.id.phone);
            TextView companyTextView = findViewById(R.id.companyName);
            TextView joiningDateTextView = findViewById(R.id.joiningDate);
            nameTextView.setText("Name: " + name);
            emailTextView.setText("Email: " + email);
            addressTextView.setText("Address: " + address);
            genderTextView.setText("Gender: " + gender);
            phoneTextView.setText("Phone: " + phone);
            companyTextView.setText("Company: " + companyName);
            joiningDateTextView.setText("Joining Date: " + joiningDate);
        } catch (JSONException ex) {
            Log.e("JsonParser Example", "unexpected JSON exception", ex);
        }
    }

    private String getEmployeeData() {
        return "{" +
            "\"name\": \"Ace\", " +
```

```

        "\"email\": \"Engineer@123\", \" +
        "\"address\": \"pune\", \" +
        "\"gender\": \"male\", \" +
        "\"phone\": \"123456789\", \" +
        "\"companyName\": \"ABC Inc\", \" +
        "\"joiningDate\": \"2023-10-25\" \" +
        \"}";
    }
}

```

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"
    android:padding="5dp">
    <TextView
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_marginStart="20dp"
        android:layout_marginTop="20dp"
        android:text="Name"
        tools:ignore="HardcodedText" />
    <TextView
        android:id="@+id/email"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/name"
        android:layout_alignParentStart="true"
        android:layout_marginStart="20dp"
        android:layout_marginTop="10dp"
        android:text="Email"
        tools:ignore="HardcodedText" />
    <TextView
        android:id="@+id/address"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/email"
        android:layout_alignParentStart="true"
        android:layout_marginStart="20dp"
        android:layout_marginTop="10dp"
        android:text="Address"
        tools:ignore="HardcodedText" />
    <TextView
        android:id="@+id/gender"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/address"

```



```

        android:layout_alignParentStart="true"
        android:layout_marginStart="20dp"
        android:layout_marginTop="10dp"
        android:text="Gender"
        tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/phone"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/gender"
    android:layout_alignParentStart="true"
    android:layout_marginStart="20dp"
    android:layout_marginTop="10dp"
    android:text="Phone"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/companyName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/gender"
    android:layout_alignParentStart="true"
    android:layout_marginStart="20dp"
    android:layout_marginTop="38dp"
    android:text="companyName"
    tools:ignore="HardcodedText" />
<TextView
    android:id="@+id/joiningDate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/gender"
    android:layout_alignParentStart="true"
    android:layout_marginStart="20dp"
    android:layout_marginTop="71dp"
    android:text="joiningDate"
    tools:ignore="HardcodedText" />
</RelativeLayout>

```

Output:

Employee_details

Name: Ace
 Email: Engineer@123
 Address: pune
 Gender: male
 Phone: 123456789
 Company: ABC Inc
 Joining Date: 2023-10-25

Slip 1 -> Q2

```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"
/>
```

```
<?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">

    <EditText
        android:id="@+id/editTextRollNo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Roll No" />

    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextRollNo"
        android:hint="Name"
        android:minHeight="48dp" />

    <EditText
        android:id="@+id/editTextClass"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextName"
        android:hint="Class"
        android:minHeight="48dp" />

    <EditText
        android:id="@+id/editTextContact"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextClass"
        android:hint="Contact"
        android:minHeight="48dp" />

    <Button
        android:id="@+id/buttonInsert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextContact"
        android:text="Insert" />

    <Button
        android:id="@+id/buttonDisplay"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/buttonInsert"
        android:text="Display"
        tools:ignore="VisualLintButtonSize" />

    <TextView
        android:id="@+id/textView"
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/buttonDisplay"
        android:layout_marginTop="16dp" />
</RelativeLayout>
```

```
package com.example.student_database;

import android.annotation.SuppressLint;
import android.content.ContentValues;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    EditText rollNoEditText, nameEditText, classEditText, contactEditText;
    Button insertButton, displayButton;
    TextView displayTextView;

    DatabaseHelper dbHelper;
    SQLiteDatabase db;

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

        dbHelper = new DatabaseHelper(this);
        db = dbHelper.getWritableDatabase();

        rollNoEditText = findViewById(R.id.editTextRollNo);
        nameEditText = findViewById(R.id.editTextName);
        classEditText = findViewById(R.id.editTextClass);
        contactEditText = findViewById(R.id.editTextContact);

        insertButton = findViewById(R.id.buttonInsert);
        displayButton = findViewById(R.id.buttonDisplay);

        displayTextView = findViewById(R.id.textView);

        insertButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                insertStudent();
            }
        });

        displayButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                displayStudents();
            }
        });
    }
}
```

```

    });
}

private void insertStudent() {
    ContentValues values = new ContentValues();
    values.put(DatabaseHelper.COLUMN_NAME,
nameEditText.getText().toString());
    values.put(DatabaseHelper.COLUMN_CLASS,
classEditText.getText().toString());
    values.put(DatabaseHelper.COLUMN_CONTACT,
contactEditText.getText().toString());

    long newRowId = db.insert(DatabaseHelper.TABLE_STUDENT, null,
values);

    if (newRowId != -1) {
        displayTextView.setText("Student inserted with ID: " +
newRowId);
    } else {
        displayTextView.setText("Error inserting student.");
    }
}

private void displayStudents() {
    Cursor cursor = db.query(
        DatabaseHelper.TABLE_STUDENT,
        null,
        null,
        null,
        null,
        null,
        null
    );

    if (cursor != null && cursor.moveToFirst()) {
        StringBuilder displayText = new StringBuilder();
        do {
            @SuppressWarnings("Range") int rollNo =
cursor.getInt(cursor.getColumnIndex(DatabaseHelper.COLUMN_ROLLNO));
            String name =
cursor.getString(cursor.getColumnIndex(DatabaseHelper.COLUMN_NAME));
            String studentClass =
cursor.getString(cursor.getColumnIndex(DatabaseHelper.COLUMN_CLASS));
            String contact =
cursor.getString(cursor.getColumnIndex(DatabaseHelper.COLUMN_CONTACT));

            displayText.append("Roll No: ").append(rollNo)
                .append(", Name: ").append(name)
                .append(", Class: ").append(studentClass)
                .append(", Contact: ").append(contact)
                .append("\n");
        } while (cursor.moveToNext());

        displayTextView.setText(displayText.toString());
    } else {
        displayTextView.setText("No students found.");
    }

    if (cursor != null) {
        cursor.close();
    }
}

```

```
}  
}
```

```
package com.example.student_database;  
  
import android.content.Context;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
public class DatabaseHelper extends SQLiteOpenHelper {  
  
    private static final String DATABASE_NAME = "StudentDB";  
    private static final int DATABASE_VERSION = 1;  
  
    // Table and columns  
    public static final String TABLE_STUDENT = "Student";  
    public static final String COLUMN_ROLLNO = "Rollno";  
    public static final String COLUMN_NAME = "Name";  
    public static final String COLUMN_CLASS = "Class";  
    public static final String COLUMN_CONTACT = "Contact";  
  
    // Create table query  
    private static final String CREATE_STUDENT_TABLE = "CREATE TABLE " +  
TABLE_STUDENT + "("  
        + COLUMN_ROLLNO + " INTEGER PRIMARY KEY AUTOINCREMENT,"  
        + COLUMN_NAME + " TEXT,"  
        + COLUMN_CLASS + " TEXT,"  
        + COLUMN_CONTACT + " TEXT"  
        + ")";  
  
    public DatabaseHelper(Context context) {  
        super(context, DATABASE_NAME, null, DATABASE_VERSION);  
    }  
  
    @Override  
    public void onCreate(SQLiteDatabase db) {  
        db.execSQL(CREATE_STUDENT_TABLE);  
    }  
  
    @Override  
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int  
newVersion) {  
        // Drop older table if it exists and create a new one  
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_STUDENT);  
        onCreate(db);  
    }  
}
```

Slip 2-> Q2

```
<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/listView"
            android:layout_width="match_parent"
            android:layout_height="match_parent"/>
        <Button
            android:id="@+id/btnAdd"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_alignParentBottom="true"
            android:text="Add Details"/>
    </RelativeLayout>

```

```

package com.example.custme_listview;

// MainActivity.java
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

    private CustomListAdapter adapter;
    private List<String> dataList;

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

        // Create a list of data
        dataList = new ArrayList<>();
        dataList.add("Item 1");
        dataList.add("Item 2");
        // Add more items as needed

        // Create custom adapter
        adapter = new CustomListAdapter(this, dataList);

        // Get reference to ListView in your layout
        ListView listView = findViewById(R.id.listView);

        // Set the custom adapter to the ListView
        listView.setAdapter(adapter);
    }
}

```

```

        // Get reference to the "Add Details" button
        Button btnAdd = findViewById(R.id.btnAdd);

        // Set onClickListener for the button
        btnAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                addDetail();
            }
        });

    }

    private void addDetail() {
        // Add a new item to the list
        dataList.add("New Item");

        // Notify the adapter that the data set has changed
        adapter.notifyDataSetChanged();

        // Scroll to the last item in the list
        ListView listView = findViewById(R.id.listView);
        listView.setSelection(adapter.getCount() - 1);

        // Optionally, show a toast message
        Toast.makeText(this, "Details added", Toast.LENGTH_SHORT).show();
    }
}

```

```

<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">

    <TextView
        android:id="@+id/textViewName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="18sp"
        android:textStyle="bold"/>

    <TextView
        android:id="@+id/textViewClass"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="14sp"/>

</LinearLayout>

```

```

package com.example.custme_listview;

// CustomAdapter.java
import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;

```

```

import android.widget.TextView;
import java.util.List;

public class CustomListAdapter extends BaseAdapter {

    private Context context;
    private List<String> dataList;

    // Constructor to initialize the adapter with context and data
    public CustomListAdapter(Context context, List<String> dataList) {
        this.context = context;
        this.dataList = dataList;
    }

    // Return the number of items in the data set
    @Override
    public int getCount() {
        return dataList.size();
    }

    // Return the data item at the specified position
    @Override
    public Object getItem(int position) {
        return dataList.get(position);
    }

    // Return the row ID of the item at the specified position
    @Override
    public long getItemId(int position) {
        return position;
    }

    // Get a View that displays the data at the specified position
    // The convertView parameter is recycled for efficiency
    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        ViewHolder viewHolder;

        // If the view is not recycled, inflate it from the layout
        if (convertView == null) {
            convertView =
LayoutInflater.from(context).inflate(R.layout.list_item_layout, parent,
false);

            // Create a ViewHolder and store references to the child views
            viewHolder = new ViewHolder();
            viewHolder.textViewItem =
convertView.findViewById(R.id.textViewName);

            // Store the ViewHolder in the tag of the view for later reuse
            convertView.setTag(viewHolder);
        } else {
            // If the view is recycled, reuse the ViewHolder from the tag
            viewHolder = (ViewHolder) convertView.getTag();
        }

        // Get the data item for this position
        String item = (String) getItem(position);

        // Bind the data to the view
        viewHolder.textViewItem.setText(item);
    }
}

```



```

        return convertView;
    }

    // ViewHolder pattern to cache views for recycling
    private static class ViewHolder {
        TextView textViewItem;
    }
}

```

Slip3-> Q1 B) Switch Toggle

```

implementation 'androidx.appcompat:appcompat:1.3.1'
implementation 'com.google.android.material:material:1.4.0'

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Switch
        android:id="@+id/switchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Switch"
        android:layout_marginTop="50dp"
        android:layout_centerHorizontal="true"/>

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Toggle"
        android:layout_below="@+id/switchButton"
        android:layout_marginTop="20dp"
        android:layout_centerHorizontal="true"/>

    <TextView
        android:id="@+id/textViewResult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/toggleButton"
        android:layout_marginTop="20dp"
        android:layout_centerHorizontal="true"
        android:text=""
        android:textSize="18sp"/>
</RelativeLayout>

```

```

package com.example.switch_toggle;

// MainActivity.java

```

```

import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.Switch;
import android.widget.TextView;
import android.widget.ToggleButton;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private Switch switchButton;
    private ToggleButton toggleButton;
    private TextView textViewResult;

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

        switchButton = findViewById(R.id.switchButton);
        toggleButton = findViewById(R.id.toggleButton);
        textViewResult = findViewById(R.id.textViewResult);

        // Set listeners for Switch and ToggleButton state changes
        switchButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
                updateResult("Switch is " + (isChecked ? "ON" : "OFF"));
            }
        });

        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
                updateResult("Toggle is " + (isChecked ? "ON" : "OFF"));
            }
        });

        // Update the TextView with the result
        private void updateResult(String result) {
            textViewResult.setText(result);
        }
    }
}

```

Slip4-> A) sms manager intent

```

<uses-permission android:name="android.permission.SEND_SMS" />
<uses-permission android:name="android.permission.RECEIVE_SMS" />

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"

```

```

        android:layout_height="match_parent"
        tools:context=".MainActivity">

        <EditText
            android:id="@+id/editTextPhoneNumber"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Phone Number"
            android:inputType="phone"/>

        <EditText
            android:id="@+id/editTextMessage"
            android:layout_below="@+id/editTextPhoneNumber"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp"
            android:hint="Message"/>

        <Button
            android:id="@+id/buttonSend"
            android:layout_below="@+id/editTextMessage"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp"
            android:text="Send SMS"/>
    </RelativeLayout>
}

package com.example.sms_manager_intent;

// MainActivity.java
import android.Manifest;
import android.annotation.SuppressLint;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private static final int PERMISSION_REQUEST_CODE = 1;

    private EditText phoneNumberEditText;
    private EditText messageEditText;
    private Button sendButton;

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

        phoneNumberEditText = findViewById(R.id.editTextPhoneNumber);
        messageEditText = findViewById(R.id.editTextMessage);
    }
}

```

```

        sendButton = findViewById(R.id.buttonSend);

        sendButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                sendSMS();
            }
        });

        // Register BroadcastReceiver for incoming SMS
        registerReceiver(new SmsReceiver(), new
IntentFilter("android.provider.Telephony.SMS_RECEIVED"));

        // Request SMS permission at runtime for Android 6.0 and above
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            if (checkSelfPermission(Manifest.permission.SEND_SMS) !=
PackageManager.PERMISSION_GRANTED) {
                requestPermissions(new
String[]{Manifest.permission.SEND_SMS}, PERMISSION_REQUEST_CODE);
            }
        }

        // Method to send SMS
        private void sendSMS() {
            String phoneNumber = phoneNumberEditText.getText().toString();
            String message = messageEditText.getText().toString();

            // Use SmsManager to send SMS
            SmsManager smsManager = SmsManager.getDefault();
            smsManager.sendTextMessage(phoneNumber, null, message, null, null);

            Toast.makeText(this, "Message Sent", Toast.LENGTH_SHORT).show();
        }

        // BroadcastReceiver to receive incoming SMS
        public class SmsReceiver extends BroadcastReceiver {
            @Override
            public void onReceive(Context context, Intent intent) {
                // Retrieve SMS message
                // Note: This is a basic example, and in a real application,
you should parse the SMS content appropriately.
                String sender = intent.getStringExtra("address");
                String messageBody = intent.getStringExtra("body");

                Toast.makeText(context, "Received SMS from " + sender + ": " +
messageBody, Toast.LENGTH_LONG).show();
            }
        }

        // Handle permission request result
        @SuppressWarnings("MissingSuperCall")
        @Override
        public void onRequestPermissionsResult(int requestCode, @NonNull
String[] permissions, @NonNull int[] grantResults) {
            if (requestCode == PERMISSION_REQUEST_CODE) {
                if (grantResults.length > 0 && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                    // Permission granted
                    Toast.makeText(this, "SMS permission granted",
Toast.LENGTH_SHORT).show();

```

```

        } else {
            // Permission denied
            Toast.makeText(this, "SMS permission denied",
                Toast.LENGTH_SHORT).show();
        }
    }
}

```

Slip4-> B) factorial intent

```

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

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/editTextNumber"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:hint="Enter a positive number"
        android:inputType="numberDecimal"
        android:layout_margin="16dp"/>

    <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:layout_marginTop="16dp"
        android:text="Calculate Factorial"/>
</RelativeLayout>

```

```

package com.example.factorial_intent;

// MainActivity.java
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 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) {
                calculateFactorial();
            }
        });
    }

    private void calculateFactorial() {
        String numberString = editTextNumber.getText().toString();

        if (!numberString.isEmpty()) {
            int number = Integer.parseInt(numberString);

            if (number >= 0) {
                // If the number is non-negative, launch the
                FactorialActivity
                Intent intent = new Intent(MainActivity.this,
                FactorialActivity.class);
                intent.putExtra("number", number);
                startActivity(intent);
            } else {
                editTextNumber.setError("Please enter a non-negative
                number");
            }
        } else {
            editTextNumber.setError("Please enter a number");
        }
    }
}

```

```

package com.example.factorial_intent;

// FactorialActivity.java
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class FactorialActivity extends AppCompatActivity {

    private TextView textViewResult;

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

        textViewResult = findViewById(R.id.textViewResult);

        // Get the number from the intent
        int number = getIntent().getIntExtra("number", 0);

        // Calculate the factorial
        long factorial = calculateFactorial(number);
    }
}

```

```

        // Display the result
        textViewResult.setText("Factorial of " + number + " is " +
factorial);
    }

    private long calculateFactorial(int n) {
        if (n == 0 || n == 1) {
            return 1;
        } else {
            return n * calculateFactorial(n - 1);
        }
    }
}

```

```

<!-- activity_factorial.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/textViewResult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="18sp"/>
</RelativeLayout>

```

Slip4-> Q2 Car Database

```

<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"
/>
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/resultTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="18sp"/>
</RelativeLayout>

```

```

package com.example.car_db;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.os.Bundle;

```

```

// MainActivity.java
import android.content.ContentValues;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
import java.util.List;

// MainActivity.java
import android.content.ContentValues;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

    private TextView resultTextView;
    private CarDatabaseHelper dbHelper;

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

        resultTextView = findViewById(R.id.resultTextView);
        dbHelper = new CarDatabaseHelper(this);

        // Perform operations
        updateCarDetails();
        displayAllRecords();
    }

    private void updateCarDetails() {
        // Update the car details whose colour is blue
        SQLiteDatabase db = dbHelper.getWritableDatabase();

        ContentValues values = new ContentValues();
        values.put(CarDatabaseHelper.COLUMN_MODEL, "New Model"); // You can
update other columns as well

        int rowsAffected = db.update(
            CarDatabaseHelper.TABLE_CAR,
            values,
            CarDatabaseHelper.COLUMN_COLOUR + "=?",
            new String[]{"blue"});

        db.close();

        resultTextView.append("\n\nUpdated " + rowsAffected + " car details
with blue colour.");
    }

    private void displayAllRecords() {
        // Display all records

```



```

        SQLiteDatabase db = dbHelper.getReadableDatabase();

        String[] projection = {
            CarDatabaseHelper.COLUMN_CAR_NO,
            CarDatabaseHelper.COLUMN_NAME,
            CarDatabaseHelper.COLUMN_MODEL,
            CarDatabaseHelper.COLUMN_COLOUR
        };

        Cursor cursor = db.query(
            CarDatabaseHelper.TABLE_CAR,
            projection,
            null,
            null,
            null,
            null,
            null);

        List<Car> carList = new ArrayList<>();

        while (cursor.moveToNext()) {
            @SuppressWarnings("Range") int carNo =
cursor.getInt(cursor.getColumnIndex(CarDatabaseHelper.COLUMN_CAR_NO));
            @SuppressWarnings("Range") String name =
cursor.getString(cursor.getColumnIndex(CarDatabaseHelper.COLUMN_NAME));
            @SuppressWarnings("Range") String model =
cursor.getString(cursor.getColumnIndex(CarDatabaseHelper.COLUMN_MODEL));
            @SuppressWarnings("Range") String colour =
cursor.getString(cursor.getColumnIndex(CarDatabaseHelper.COLUMN_COLOUR));

            Car car = new Car(carNo, name, model, colour);
            carList.add(car);
        }

        cursor.close();
        db.close();

        // Display the results
        resultTextView.append("\n\nAll Car Records:\n");

        for (Car car : carList) {
            resultTextView.append(
                "Car No: " + car.getCarNo() +
                ", Name: " + car.getName() +
                ", Model: " + car.getModel() +
                ", Colour: " + car.getColour() + "\n");
        }
    }
}

```

```

package com.example.car_db;

// Car.java
public class Car {
    private int carNo;
    private String name;
    private String model;
    private String colour;

    public Car(int carNo, String name, String model, String colour) {

```

```

        this.carNo = carNo;
        this.name = name;
        this.model = model;
        this.colour = colour;
    }

    public int getCarNo() {
        return carNo;
    }

    public String getName() {
        return name;
    }

    public String getModel() {
        return model;
    }

    public String getColour() {
        return colour;
    }
}

```

```

package com.example.car_db;

// CarDatabaseHelper.java
import android.content.ContentValues;
import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class CarDatabaseHelper extends SQLiteOpenHelper {

    private static final String DATABASE_NAME = "car_database";
    private static final int DATABASE_VERSION = 1;

    public static final String TABLE_CAR = "car";
    public static final String COLUMN_CAR_NO = "carno";
    public static final String COLUMN_NAME = "name";
    public static final String COLUMN_MODEL = "model";
    public static final String COLUMN_COLOUR = "colour";

    private static final String CREATE_TABLE_CAR =
        "CREATE TABLE " + TABLE_CAR + "(" +
            COLUMN_CAR_NO + " INTEGER PRIMARY KEY, " +
            COLUMN_NAME + " TEXT, " +
            COLUMN_MODEL + " TEXT, " +
            COLUMN_COLOUR + " TEXT)";

    public CarDatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL(CREATE_TABLE_CAR);
        // Insert some existing records
        insertInitialData(db);
    }
}

```

```

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        // Implement if needed when database schema changes.
    }

    private void insertInitialData(SQLiteDatabase db) {
        ContentValues values1 = new ContentValues();
        values1.put(COLUMN_NAME, "Car1");
        values1.put(COLUMN_MODEL, "Model1");
        values1.put(COLUMN_COLOUR, "blue");
        db.insert(TABLE_CAR, null, values1);

        ContentValues values2 = new ContentValues();
        values2.put(COLUMN_NAME, "Car2");
        values2.put(COLUMN_MODEL, "Model2");
        values2.put(COLUMN_COLOUR, "blue");
        db.insert(TABLE_CAR, null, values2);

        ContentValues values3 = new ContentValues();
        values3.put(COLUMN_NAME, "Car3");
        values3.put(COLUMN_MODEL, "Model3");
        values3.put(COLUMN_COLOUR, "Black");
        db.insert(TABLE_CAR, null, values3);
        // Add more records as needed
    }
}

```

slip6 -> Q2 onclick listview

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</RelativeLayout>

```

```

package com.example.onclick_listview;

// MainActivity.java
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 ListView
    String[] data = {"Item 1", "Item 2", "Item 3", "Item 4", "Item 5"};

    // Create an ArrayAdapter to populate the ListView
    ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
    android.R.layout.simple_list_item_1, data);

    // Get the ListView from the layout
    ListView listView = findViewById(R.id.listView);

    // Set the adapter for the ListView
    listView.setAdapter(adapter);

    // Set a click listener for the items in the ListView
    listView.setOnItemClickListener(new
    AdapterView.OnItemClickListener() {
        @Override
        public void onItemClick(AdapterView<?> parent, View view, int
        position, long id) {
            // Get the selected item from the adapter
            String selectedItem = (String)
            parent.getItemAtPosition(position);

            // Display a Toast with the selected item
            Toast.makeText(MainActivity.this, "Selected: " +
            selectedItem, Toast.LENGTH_SHORT).show();
        }
    });
}
}

```

slip7 -> Q1

```

<service android:name=".AudioService" />
<uses-permission android:name="android.permission.FOREGROUND_SERVICE" />

```

```

package com.example.audio_bgm;

// MainActivity.java
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

        // Start the AudioService when the main activity is created
    }
}

```

```

        startService(new Intent(this, AudioService.class));
    }

    public void openOtherActivity(View view) {
        // Example button click to open another activity
        Intent intent = new Intent(this, OtherActivity.class);
        startActivity(intent);
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();

        // Stop the AudioService when the main activity is destroyed
        stopService(new Intent(this, AudioService.class));
    }
}

```

```

package com.example.audio_bgm;

// OtherActivity.java
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;

public class OtherActivity extends AppCompatActivity {

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

```

```

package com.example.audio_bgm;

// AudioService.java
import android.app.Service;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.IBinder;
import androidx.annotation.Nullable;

public class AudioService extends Service {

    private MediaPlayer mediaPlayer;

    @Override
    public void onCreate() {
        super.onCreate();

        // Initialize and start playing the audio
        mediaPlayer = MediaPlayer.create(this, R.raw.sample);
        mediaPlayer.setLooping(true); // Loop the audio
        mediaPlayer.start();
    }
}

```

```

@Override
public int onStartCommand(Intent intent, int flags, int startId) {
    return START_STICKY;
}

@Override
public void onDestroy() {
    super.onDestroy();

    // Stop and release the MediaPlayer when the service is destroyed
    if (mediaPlayer != null) {
        mediaPlayer.stop();
        mediaPlayer.release();
    }
}

@Nullable
@Override
public IBinder onBind(Intent intent) {
    return null;
}
}

```

slip 11 Q2 Email with attachment

```

<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"
/>

```

```

package com.example.email_attachment;

// MainActivity.java
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
import androidx.appcompat.app.AppCompatActivity;
import java.io.File;

public class MainActivity extends AppCompatActivity {

    private static final String EMAIL_SUBJECT = "Email Subject";
    private static final String EMAIL_BODY = "Hello,\n\nPlease find the
attached file.";

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

    public void sendEmail(View view) {
        // File to be attached (replace "your_file_name.txt" with your
actual file name)
        File attachmentFile = new
File(Environment.getExternalStorageDirectory(), "resume.pdf");

```

```

        // Create the email Intent
        Intent emailIntent = new Intent(Intent.ACTION_SEND);
        emailIntent.setType("text/plain");

        // Set the recipient email address (replace "recipient@example.com"
with the actual email address)
        emailIntent.putExtra(Intent.EXTRA_EMAIL, new
String[]{"gandaspl8@gamil.com"});

        // Set the email subject and body
        emailIntent.putExtra(Intent.EXTRA_SUBJECT, EMAIL_SUBJECT);
        emailIntent.putExtra(Intent.EXTRA_TEXT, EMAIL_BODY);

        // Attach the file
        Uri fileUri = Uri.fromFile(attachmentFile);
        emailIntent.putExtra(Intent.EXTRA_STREAM, fileUri);

        // Start the email client
        startActivity(Intent.createChooser(emailIntent, "Send Email"));
    }
}

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <Button
        android:id="@+id/btnSendEmail"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send Email"
        android:onClick="sendEmail"
        android:layout_centerInParent="true"/>
</RelativeLayout>

```

Slip13-> Q2

```

<uses-permission android:name="android.permission.READ_CONTACTS" />

```

```

<!-- activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <Button
        android:id="@+id/btnSendSMS"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send SMS"
        android:onClick="sendSMS"
        android:layout_centerInParent="true"/>
</RelativeLayout>

```

```

package com.example.sms_img;

// MainActivity.java
import android.Manifest;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Toast;

import androidx.activity.result.ActivityResult;
import androidx.activity.result.ActivityResultLauncher;
import androidx.activity.result.contract.ActivityResultContracts;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

public class MainActivity extends AppCompatActivity {

    private ActivityResultLauncher<Intent> pickContactLauncher;
    private ActivityResultLauncher<String> requestPermissionLauncher;
    private ActivityResultLauncher<Intent> pickImageLauncher;

    private static final int PICK_CONTACT_REQUEST = 1;

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

        // Initialize ActivityResultLaunchers
        pickContactLauncher = registerForActivityResult(
            new ActivityResultContracts.StartActivityForResult(),
            result -> {
                if (result.getResultCode() == RESULT_OK) {
                    pickImage();
                }
            }
        );

        requestPermissionLauncher = registerForActivityResult(
            new ActivityResultContracts.RequestPermission(),
            isGranted -> {
                if (isGranted) {
                    pickContact();
                } else {
                    // Handle permission denied
                }
            }
        );

        pickImageLauncher = registerForActivityResult(
            new ActivityResultContracts.StartActivityForResult(),
            result -> {
                if (result.getResultCode() == RESULT_OK) {
                    composeAndSendSMS(result.getData().getData());
                }
            }
        );
    }
}

```



```

    }

    );

    // Request READ_CONTACTS permission
requestPermissionLauncher.launch(Manifest.permission.READ_CONTACTS);
}

public void sendSMS(View view) {
    // Select a contact
    pickContact();
}

private void pickContact() {
    Intent pickContactIntent = new Intent(Intent.ACTION_PICK,
ContactsContract.Contacts.CONTENT_URI);
    pickContactLauncher.launch(pickContactIntent);
}

private void pickImage() {
    Intent pickImageIntent = new Intent(Intent.ACTION_PICK,
MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
    pickImageLauncher.launch(pickImageIntent);
}

private void composeAndSendSMS(Uri imageUri) {
    // Compose the SMS
    String smsBody = "Check out this image!";
    Intent smsIntent = new Intent(Intent.ACTION_SENDTO,
Uri.parse("smsto:"));
    smsIntent.putExtra("sms_body", smsBody);

    // Attach the image
    smsIntent.putExtra(Intent.EXTRA_STREAM, imageUri);
    smsIntent.setType("image/*");

    // Check if there is an activity available to handle the intent
    if (smsIntent.resolveActivity(getPackageManager()) != null) {
        // Start the messaging app
        startActivity(smsIntent);
    } else {
        // Handle the case where there is no activity available
        // (e.g., show a message to the user)
        Toast.makeText(this, "No messaging app available",
Toast.LENGTH_SHORT).show();
    }
}
}
}

```

slip14 -> Q1 A)Orientation Portait

```
android:configChanges="orientation|screenSize"
```

```

package com.example.orientation;

// MainActivity.java
import android.content.res.Configuration;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

    @Override
    public void onConfigurationChanged(Configuration newConfig) {
        super.onConfigurationChanged(newConfig);

        // Handle configuration changes if needed
        // Example: Check if the orientation is landscape or portrait
        if (newConfig.orientation == Configuration.ORIENTATION_LANDSCAPE) {
            // Do something when in landscape mode
        } else if (newConfig.orientation ==
Configuration.ORIENTATION_PORTRAIT) {
            // Do something when in portrait mode
        }
    }
}

```

```

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Portrait Layout"
        android:textSize="24sp"
        android:layout_centerInParent="true"/>
</RelativeLayout>

```

AcceptRejectSlip9

```

package com.example.myapplication;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class AcceptRejectSlip9 extends AppCompatActivity {

```

```

private EditText editTextNumber1;
private EditText editTextNumber2;
private TextView resultTextView;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.accept_reject_slip9);

    editTextNumber1 = findViewById(R.id.editTextNumber1);
    editTextNumber2 = findViewById(R.id.editTextNumber2);
    resultTextView = findViewById(R.id.resultTextView);

}
public void onSubmitClick(View view){
    String input1 = editTextNumber1.getText().toString();
    String input2 = editTextNumber2.getText().toString();

    if(!input1.isEmpty() && !input2.isEmpty()){
        double number1 = Double.parseDouble(input1);
        double number2 = Double.parseDouble(input2);

        if(number1>10 && number2>10){
            resultTextView.setText("Both Numbers are greater than 10
enter new numbers ");
        }else{
            resultTextView.setText("Number1"+number1+"\n
Number2"+number2);
        }
    }else{
        resultTextView.setText("PleaseEnter both numbers");
    }
}
}

```

```

<?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=".AcceptRejectSlip9">

    <EditText
        android:id="@+id/editTextNumber1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter number 1"
        android:inputType="numberDecimal"
        android:layout_marginTop="16dp"/>

    <EditText
        android:id="@+id/editTextNumber2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter number 2"
        android:inputType="numberDecimal"
        android:layout_below="@id/editTextNumber1"
        android:layout_marginTop="16dp"/>

    <Button
        android:id="@+id/submitButton"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_below="@id/editTextNumber2"
        android:layout_marginTop="16dp"
        android:onClick="onSubmitClick"/>

<TextView
    android:id="@+id/resultTextView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/submitButton"
    android:layout_marginTop="16dp"/>
</RelativeLayout>

```

Activity Life cycle

```

package com.example.myapplication;

import android.os.Bundle;
import android.util.Log;

import androidx.appcompat.app.AppCompatActivity;

public class ActivityLifecycle extends AppCompatActivity {
    private static final String TAG = "ActivityLifecycle";

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

        Log.d(TAG, "onCreate");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d(TAG, "onStart");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d(TAG, "onResume");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.d(TAG, "onPause");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.d(TAG, "onStop");
    }

    @Override

```

```

        protected void onDestroy() {
            super.onDestroy();
            Log.d(TAG, "onDestroy");
        }

        @Override
        protected void onRestart() {
            super.onRestart();
            Log.d(TAG, "onRestart");
        }
    }
}

```

factorial with alert

```

package com.example.myapplication;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

public class AlertSlip7 extends AppCompatActivity {
    private EditText editTextNumber;
    private TextView textViewResult;

    private Button buttonCalculateFactorial;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.alert_slip7);

        editTextNumber = findViewById(R.id.editTextNumber);
        textViewResult = findViewById(R.id.textViewResult);
        buttonCalculateFactorial =
            findViewById(R.id.buttonCalculateFactorial);

        buttonCalculateFactorial.setOnClickListener(new
            View.OnClickListener() {
                @Override
                public void onClick(View view) {
                    calculateFactorial();
                }
            });
    }

    protected void calculateFactorial() {
        String input = editTextNumber.getText().toString();
        if (!input.isEmpty()) {
            int number = Integer.parseInt(input);
            long factorial = 1;
            for (int i = 1; i <= number; i++) {
                factorial *= i;
            }
            String resultMessage = "Factorial of " + number + " is " + factorial;
            showAlert("Factorial Result", resultMessage);
        } else {
            showAlert("Error", "Please enter a number");
        }
    }
}

```

```

    }
}
private void showAlert(String title, String message){
    AlertDialog.Builder builder = new AlertDialog.Builder(this);

builder.setTitle(title).setMessage(message).setPositiveButton("OK",null).sh
ow();
}
}

```

```

<!-- res/layout/activity_main.xml -->
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".AlertSlip7">

    <EditText
        android:id="@+id/editTextNumber"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter a number"
        android:inputType="number"/>

    <Button
        android:id="@+id/buttonCalculateFactorial"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Calculate Factorial"
        android:layout_below="@id/editTextNumber"
        android:layout_marginTop="16dp"
        android:onClick="calculateFactorial"/>

    <TextView
        android:id="@+id/textViewResult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/buttonCalculateFactorial"
        android:layout_marginTop="16dp"
        android:text=""
        android:textSize="18sp"
        android:layout_centerHorizontal="true"/>
</RelativeLayout>

```

Calculator

```

package com.example.myapplication;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class CalculatorSlip10 extends AppCompatActivity {

```

```

private TextView display;
private String currentInput = "";
private double operand1 = 0;
private String operator = "";

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.calculator_slip10_activity3);

    display = findViewById(R.id.display);

    setDigitButtonClickListeners();

    setOperatorButtonClickListeners();

    setEqualsButtonClickListener();
}

private void setDigitButtonClickListeners() {
    int[] digitButtonIds = {R.id.button1, R.id.button2, R.id.button3,
R.id.button4,
        R.id.button5, R.id.button6, R.id.button7, R.id.button8,
        R.id.button9, R.id.button0};

    for (int digitButtonId : digitButtonIds) {
        Button digitButton = findViewById(digitButtonId);
        digitButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Button button = (Button) v;
                currentInput += button.getText().toString();
                display.setText(currentInput);
            }
        });
    }
}

private void setOperatorButtonClickListeners() {
    int[] operatorButtonIds = {R.id.buttonAdd, R.id.buttonMultiply,
R.id.buttonMultiply, R.id.buttonDivide};

    for (int operatorButtonId : operatorButtonIds) {
        Button operatorButton = findViewById(operatorButtonId);
        operatorButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (!currentInput.isEmpty()) {
                    operand1 = Double.parseDouble(currentInput);
                    operator = ((Button) v).getText().toString();
                    currentInput = "";
                }
            }
        });
    }
}

private void setEqualsButtonClickListener() {
    Button equalsButton = findViewById(R.id.buttonEquals);
    equalsButton.setOnClickListener(new View.OnClickListener() {
        @Override

```

```

        public void onClick(View v) {
            if (!currentInput.isEmpty() && !operator.isEmpty()) {
                double operand2 = Double.parseDouble(currentInput);
                double result = performOperation(operand1, operand2,
operator);

                display.setText(String.valueOf(result));
                currentInput = "";
                operator = "";
            }
        }
    });
}

private double performOperation(double operand1, double operand2,
String operator) {
    switch (operator) {
        case "+":
            return operand1 + operand2;
        case "-":
            return operand1 - operand2;
        case "x":
            return operand1 * operand2;
        case "÷":
            if (operand2 != 0) {
                return operand1 / operand2;
            } else {
                return Double.NaN;
            }
        default:
            return Double.NaN;
    }
}
}
}

```

```

<?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=".CalculatorSlip10">
    <TextView
        android:id="@+id/display"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:text="CALCULATOR" />
    <EditText
        android:id="@+id/OutputEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:textSize="24sp"
        android:hint="0"/>

    <GridLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/display"
        android:layout_marginTop="37dp"
        android:columnCount="4">

```



```
<!-- Buttons for digits -->
<Button
    android:id="@+id/button1"
    android:text="1" />

<Button
    android:id="@+id/button2"
    android:text="2" />

<Button
    android:id="@+id/button3"
    android:text="3" />

<Button
    android:id="@+id/button4"
    android:text="4" />

<Button
    android:id="@+id/button5"
    android:text="5" />

<Button
    android:id="@+id/button6"
    android:text="6" />

<Button
    android:id="@+id/button7"
    android:text="7" />

<Button
    android:id="@+id/button8"
    android:text="8" />

<Button
    android:id="@+id/button9"
    android:text="9" />
<Button
    android:id="@+id/button0"
    android:text="0" />
<Button
    android:id="@+id/buttonClear"
    android:text="C" />
<Button
    android:id="@+id/buttonPoint"
    android:text="." />

<Button
    android:id="@+id/buttonAdd"
    android:text="+" />

<Button
    android:id="@+id/Subtract"
    android:text="-" />

<Button
    android:id="@+id/buttonMultiply"
    android:text="*" />

<Button
    android:id="@+id/buttonDivide"
```



```

        calendar.set(Calendar.DAY_OF_MONTH, dayOfMonth);
        TimePickerDialog timePickerDialog = new
TimePickerDialog(DateTimePickerSlip8.this,
                new TimePickerDialog.OnTimeSetListener() {
                    @Override
                    public void onTimeSet(TimePicker view, int
hourOfDay, int minute) {
                        calendar.set(Calendar.HOUR_OF_DAY,
hourOfDay);
                        calendar.set(Calendar.MINUTE, minute);
                        updateResultTextView(calendar);
                    }
                }, hour,
                minute,
                true );
    },
    year,
    month,
    day);
    datePickerDialog.show();
}
private void updateResultTextView(Calendar calendar) {
    String result = String.format(
        "Selected Date and Time:\n%s",
        android.text.format.DateFormat.format("MMM dd, yyyy hh:mm
a", calendar)
    );
    textViewResult.setText(result);
}
}

```

```

<?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=".DateTimePickerSlip8">

    <Button
        android:id="@+id/buttonPickDateTime"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Pick Date and Time" />

    <TextView
        android:id="@+id/textViewResult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/buttonPickDateTime"
        android:layout_marginTop="16dp"
        android:text=""
        android:textSize="18sp"
        android:layout_centerHorizontal="true"/>
</RelativeLayout>

```

Friend viewlist

```

package com.example.myapplication;

import android.os.Bundle;
import android.widget.ListView;

import androidx.appcompat.app.AppCompatActivity;

import java.util.ArrayList;

public class ViewFriendSlip5 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.friend_view_slip_5);

        ArrayList<Friend> friendsList = new ArrayList<>();
        friendsList.add(new Friend("Friend1", R.drawable.lightOff));
        friendsList.add(new Friend("Friend2", R.drawable.lightOff));
        friendsList.add(new Friend("Friend3", R.drawable.lightOff));

        FriendAdapter friendAdapter = new FriendAdapter(this, friendsList);
        ListView listViewFriends = findViewById(R.id.listViewFriends);
        listViewFriends.setAdapter(friendAdapter);
    }
}

```

```

<?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=".ViewFriendSlip5">

    <ListView
        android:id="@+id/listViewFriends"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</RelativeLayout>

```

Login and registration

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private static final String VALID_USERNAME = "mca";
    private static final String VALID_PASSWORD = "android";

    private EditText usernameEditText;
    private EditText passwordEditText;
    private Button loginButton;
}

```

```

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

    usernameEditText = findViewById(R.id.usernameEditText);
    passwordEditText = findViewById(R.id.passwordEditText);
    loginButton = findViewById(R.id.loginButton);

    loginButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String enteredUsername =
usernameEditText.getText().toString();
            String enteredPassword =
passwordEditText.getText().toString();

            if (enteredUsername.equals(VALID_USERNAME) &&
enteredPassword.equals(VALID_PASSWORD)) {
                showToast("Login successful");
            } else {
                showToast("Invalid username or password");
            }
        }
    });
}

private void showToast(String message) {
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
}
}

```

```

<?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">

    <EditText
        android:id="@+id/usernameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:hint="Username"/>

    <EditText
        android:id="@+id/passwordEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/usernameEditText"
        android:layout_marginTop="20dp"
        android:inputType="textPassword"
        android:hint="Password"/>

    <Button
        android:id="@+id/loginButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```

        android:layout_below="@id/passwordEditText"
        android:layout_marginTop="20dp"
        android:text="Login"/>
</RelativeLayout>

```

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity2 extends AppCompatActivity {
    private Button btnRegister;
    private EditText editTextName;
    private EditText editTextEmail;
    private EditText editTextPassword;
    private EditText editTextAge;
    private EditText editTextMobile;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        btnRegister = findViewById(R.id.btnRegister);
        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                validateForm();
            }
        });
    }

    private void validateForm(){

        editTextName = findViewById(R.id.editTextName);
        editTextEmail = findViewById(R.id.editTextEmail);
        editTextPassword = findViewById(R.id.editTextPassword);
        editTextAge = findViewById(R.id.editTextAge);
        editTextMobile = findViewById(R.id.editTextMobile);

        String name = editTextName.getText().toString().trim();
        String email = editTextEmail.getText().toString().trim();
        String password = editTextPassword.getText().toString().trim();
        String age = editTextAge.getText().toString().trim();
        String mobileNo = editTextMobile.getText().toString().trim();

        if(name.isEmpty() || email.isEmpty() || password.isEmpty() || age.isEmpty() || mobileNo.isEmpty()) {
            Toast.makeText(this, "All fields are required",
                Toast.LENGTH_SHORT).show();
        }
        else{
            Toast.makeText(this, "Successfully Registered",
                Toast.LENGTH_SHORT).show();
        }
    }
}

```

```
}  
}  
}
```

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    android:padding="16dp"  
    tools:context=".MainActivity2"  
>  
  
    <TextView  
        android:id="@+id/textView"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_marginBottom="8dp"  
        android:text="Registration" />  
  
    <EditText  
        android:id="@+id/editTextName"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:hint="Name" />  
  
    <EditText  
        android:id="@+id/editTextEmail"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_below="@+id/editTextName"  
        android:layout_marginTop="8dp"  
        android:inputType="textEmailAddress"  
        android:hint="Email" />  
  
    <EditText  
        android:id="@+id/editTextPassword"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_below="@+id/editTextEmail"  
        android:layout_marginTop="8dp"  
        android:inputType="textPassword"  
        android:hint="Password" />  
  
    <EditText  
        android:id="@+id/editTextAge"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_below="@+id/editTextPassword"  
        android:layout_marginTop="8dp"  
        android:inputType="number"  
        android:hint="Age" />  
  
    <EditText  
        android:id="@+id/editTextMobile"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_below="@+id/editTextAge"  
        android:layout_marginTop="8dp"  
        android:inputType="phone"
```

```

        android:hint="Mobile Number"/>

        <Button
            android:id="@+id/btnRegister"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/editTextMobile"
            android:layout_marginTop="16dp"
            android:text="Register"/>

    </RelativeLayout>

```

Login layout

```

<?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=".LoginActivity">

    <EditText
        android:id="@+id/editTextUsernameConstraint"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Username"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="16dp"/>

    <EditText
        android:id="@+id/editTextPasswordConstraint"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:inputType="textPassword"
        android:hint="Password"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintTop_toBottomOf="@id/editTextUsernameConstraint"
        android:layout_marginTop="8dp"/>

    <Button
        android:id="@+id/buttonLoginConstraint"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"

    app:layout_constraintTop_toBottomOf="@id/editTextPasswordConstraint"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"

```



```
        android:layout_marginTop="16dp"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Linear layout

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

    <EditText
        android:id="@+id/editTextUsernameLinear"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"/>

    <EditText
        android:id="@+id/editTextPasswordLinear"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="textPassword"
        android:hint="Password"/>

    <Button
        android:id="@+id/buttonLoginLinear"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"/>

</LinearLayout>
```

Login layout table

```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout 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"
    android:padding="16dp"
    tools:context=".LoginActivity">

    <TableRow>
        <EditText
            android:id="@+id/editTextUsernameTable"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:hint="Username"/>
    </TableRow>

    <TableRow>
        <EditText
            android:id="@+id/editTextPasswordTable"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:inputType="textPassword"
            android:hint="Password"/>
    </TableRow>

</TableLayout>
```



```

import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class PowerIntent1Slip6 extends AppCompatActivity {
    private EditText editTextNumber1;
    private EditText editTextNumber2;
    private Button buttonCalculate;

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.power_intent1_slip6);

        editTextNumber1 = findViewById(R.id.editTextNumber1);
        editTextNumber2 = findViewById(R.id.editTextNumber2);
        buttonCalculate = findViewById(R.id.buttonCalculate);

        buttonCalculate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String input1 = editTextNumber1.getText().toString();
                String input2 = editTextNumber2.getText().toString();

                if(!input1.isEmpty() && !input2.isEmpty()) {
                    double number1 = Double.parseDouble(input1);
                    double number2 = Double.parseDouble(input2);
                    double powerResult = Math.pow(number1, number2);
                    double averageResult = (number1 + number2) / 2;
                    Intent i = new
Intent(PowerIntent1Slip6.this, PowerIntent2Slip6.class);
                    i.putExtra("Power Result", powerResult);
                    i.putExtra("Average Result", averageResult);
                    startActivity(i);
                }
            }
        });
    }
}

```

```

<?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=".PowerIntent1Slip6">

    <EditText
        android:id="@+id/editTextNumber1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter number 1"
        android:inputType="numberDecimal"
        android:layout_marginTop="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginRight="16dp"/>

    <EditText
        android:id="@+id/editTextNumber2"
        android:layout_width="match_parent"

```

```

        android:layout_height="wrap_content"
        android:hint="Enter number 2"
        android:inputType="numberDecimal"
        android:layout_below="@id/editTextNumber1"
        android:layout_marginTop="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginRight="16dp"/>

        <Button
            android:id="@+id/buttonCalculate"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Calculate"
            android:layout_below="@id/editTextNumber2"
            android:layout_marginTop="16dp"
            android:layout_marginLeft="16dp"
            android:layout_marginRight="16dp"/>
    </RelativeLayout>

```

```

package com.example.myapplication;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class PowerIntent2Slip6 extends AppCompatActivity {
    private TextView textViewPower;
    private TextView textViewAverage;

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.power_intent2_slip6);
        textViewPower = findViewById(R.id.textViewPower);
        textViewAverage = findViewById(R.id.textViewAverage);

        Intent i = getIntent();
        double powerResult = i.getDoubleExtra("Power Result",0.0);
        double averageResult = i.getDoubleExtra("Average Result",0.0);

        textViewPower.setText("Power Result"+powerResult);
        textViewAverage.setText("Average Result"+averageResult);
    }
}

```

```

<?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"
    xmlns:tools="http://schemas.android.com/tools"
    tools:context=".PowerIntent2Slip6">

    <TextView
        android:id="@+id/textViewPower"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:layout_marginLeft="16dp"

```

```

        android:layout_marginRight="16dp"/>

        <TextView
            android:id="@+id/textViewAverage"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@id/textViewPower"
            android:layout_marginTop="16dp"
            android:layout_marginLeft="16dp"
            android:layout_marginRight="16dp"/>
    </RelativeLayout>

```

Toggle bulb

```

package com.example.myapplication;

import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.ImageView;
import android.widget.ToggleButton;

import androidx.appcompat.app.AppCompatActivity;

public class ToggleSlip10 extends AppCompatActivity {
    private ToggleButton toggleButton;
    private ImageView lightBulb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.toggle_slip10_activity);

        toggleButton = findViewById(R.id.toggleButton);
        lightBulb = findViewById(R.id.lightBulb);

        lightBulb.setImageResource(R.drawable.lightOff);
        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton compoundButton,
boolean isChecked) {
                if (isChecked) {
                    lightBulb.setImageResource(R.drawable.lightOn);
                } else {
                    lightBulb.setImageResource(R.drawable.lightOff);
                }
            }
        });
    }
}

```

```

<?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=".ToggleSlip10">

```

```

<ToggleButton
    android:id="@+id/toggleButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textOff="OFF"
    android:textOn="ON" />

<ImageView
    android:id="@+id/lightBulb"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/toggleButton"
    android:layout_marginTop="202dp"
    android:src="@drawable/lightOff" />
</RelativeLayout>

```

Scrolline

```

<?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">
    <TextView
        android:text="A Scroll View"
        android:layout_height="match_parent"
        android:layout_width="wrap_content" />

    <ScrollView
        android:id="@+id/scrollView"
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:padding="16dp">

            <Button
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Button1"
                android:id="@+id/button1"
                android:padding="8dp"/>

            <Button
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Button2"
                android:id="@+id/button2"
                android:padding="8dp"/>

            <Button
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Button3"

```

```

        android:id="@+id/button3"
        android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button4"
            android:id="@+id/button4"
            android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button5"
            android:id="@+id/button5"
            android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button6"
            android:id="@+id/button6"
            android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button7"
            android:id="@+id/button7"
            android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button8"
            android:id="@+id/button8"
            android:padding="8dp"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Button9"
            android:id="@+id/button9"
            android:padding="8dp"/>

    </LinearLayout>
</ScrollView>
</RelativeLayout>

```

Phoncall

```
<uses-permission android:name="android.permission.CALL_PHONE" />
```

```

package com.example.phoncall;

import androidx.appcompat.app.AppCompatActivity;

```



```

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    // define objects for edit text and button
    EditText edittext;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Getting instance of edittext and button
        button = findViewById(R.id.button);
        edittext = findViewById(R.id.editText);

        // Attach set on click listener to the button for initiating
intent
        button.setOnClickListener(arg -> {
String
            // getting phone number from edit text and changing it to
            String phone_number = edittext.getText().toString();

            // Getting instance of Intent with action as ACTION_CALL
            Intent phone_intent = new Intent(Intent.ACTION_CALL);

            // Set data of Intent through Uri by parsing phone number
            phone_intent.setData(Uri.parse("tel:" + phone_number));

            // start Intent
            startActivity(phone_intent);
        });
    }
}

```

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">

    <!-- Edit text for phone number -->
    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="30dp"
    >

```

```
tools:ignore="SpeakableTextPresentCheck,TextFields,TouchTargetSizeCheck"
    android:autofillHints=""
/>

<!-- Button to make call -->
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="115dp"
    android:padding="5dp"
    android:text="Make Call!!" />
</RelativeLayout>
```