



**Pimpri Chinchwad Education Trust's  
Pimpri Chinchwad College of Engineering**

**Assignment-03**

**Roll No: 123M1H048**

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**Submission Date: 03 / 10 / 24**

1. Design a simple mobile application that displays user profile information. The profile includes a profile picture, user name, and a short bio. The UI should use different ViewGroups (LinearLayout, RelativeLayout, FrameLayout) to organize the layout. Experiment with different layout structures and ensure the profile image and text are aligned properly within the layout.

**MainActivity.java**

```
package com.example.forpractice;

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);
    }
}
```

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <TextView
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:text="PROFILE"
        android:textStyle="bold"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:layout_marginBottom="100dp"/>

<FrameLayout
    android:layout_width="120dp"
    android:layout_height="120dp"
    android:layout_gravity="center">

    <ImageView
        android:id="@+id/profile_image"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:src="@drawable/profile"
        android:scaleType="centerCrop"
        android:contentDescription="Profile Picture" />

</FrameLayout>

<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp">

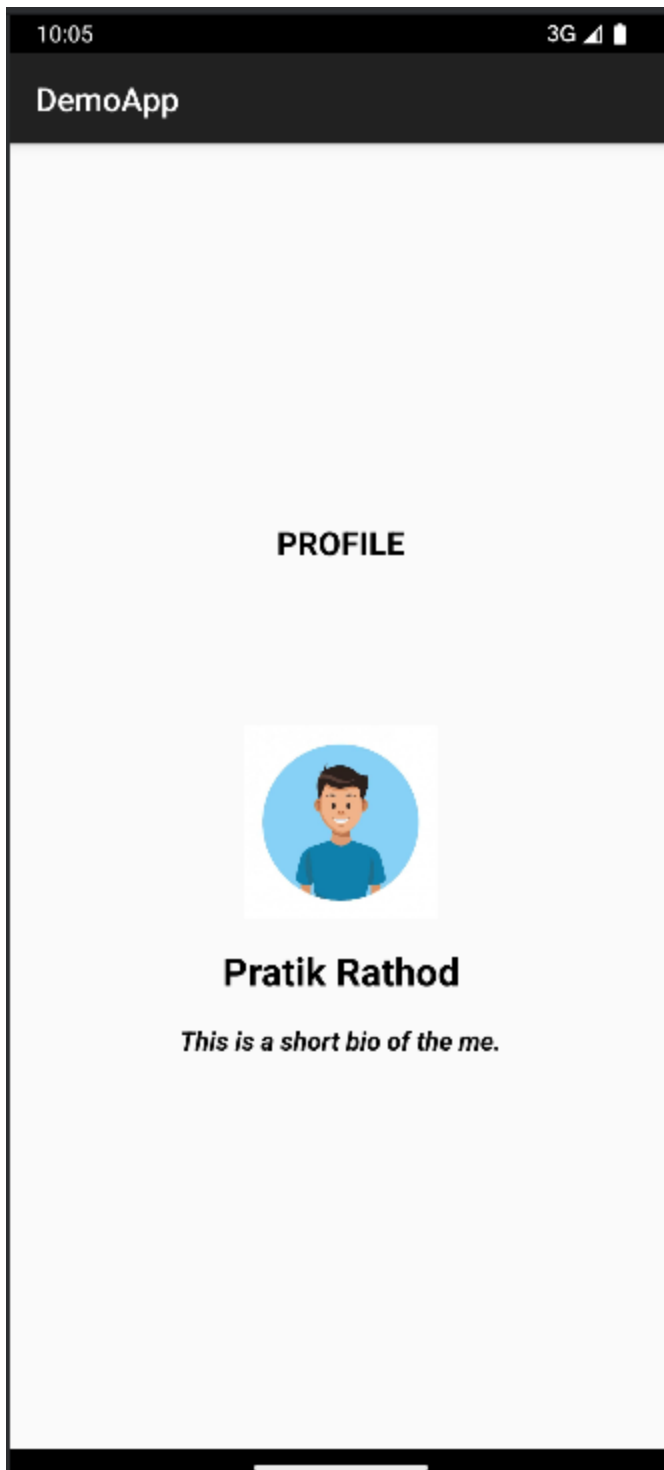
    <TextView
        android:id="@+id/user_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pratik Rathod"
        android:textSize="24dp"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:layout_centerHorizontal="true"
        android:layout_alignParentTop="true"
        android:layout_marginBottom="8dp" />

    <TextView
        android:id="@+id/user_bio"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="This is a short bio of the me."
        android:textSize="16sp"
        android:textStyle="bold|italic"
        android:textColor="@color/black"
        android:layout_below="@id/user_name"
        android:layout_centerHorizontal="true"
        android:padding="8dp" />

</RelativeLayout>

</LinearLayout>

```



2. Develop a user registration form for a mobile application. The form should collect the username, email, gender, favorite activities (using checkboxes), and country of residence (using a dropdown Spinner). Once the user fills in the details and clicks the Submit button, display the entered information in a confirmation TextView.

**MainActivity.java**

```

package com.example.forpractice;

import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText username, email;
    private RadioGroup genderRadioGroup;
    private CheckBox sports, reading, traveling;
    private Spinner countrySpinner;
    private TextView confirmation;
    private Button submit;

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

        username = findViewById(R.id.username);
        email = findViewById(R.id.email);
        genderRadioGroup = findViewById(R.id.gender_group);
        sports = findViewById(R.id.sports);
        reading = findViewById(R.id.reading);
        traveling = findViewById(R.id.traveling);
        countrySpinner = findViewById(R.id.spinner);
        confirmation = findViewById(R.id.confirmation_text);
        submit = findViewById(R.id.submit);

        ArrayAdapter<CharSequence> adapter =
        ArrayAdapter.createFromResource(this,
            R.array.country_array, android.R.layout.simple_spinner_item);

        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        countrySpinner.setAdapter(adapter);

        submit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {

                String usernameText = username.getText().toString();
                String emailText = email.getText().toString();

                int id = genderRadioGroup.getCheckedRadioButtonId();
                RadioButton selectedRadioButton = findViewById(id);
                String gender = selectedRadioButton.getText().toString();

                StringBuilder activities = new StringBuilder();
                if (sports.isChecked()) {
                    activities.append("Sports ");
                }
                if (reading.isChecked()) {
                    activities.append("Reading ");
                }
            }
        });
    }
}

```

```

        if (traveling.isChecked()) {
            activities.append("Traveling ");
        }

        String country = countrySpinner.getSelectedItem().toString();

        String confirmationMessage = "Username: " + usernameText + "\n"
            + "Email: " + emailText + "\n"
            + "Gender: " + gender + "\n"
            + "Favorite Activities: " + activities.toString() +
"\n"
            + "Country: " + country;

        confirmation.setText(confirmationMessage);
        confirmation.setVisibility(View.VISIBLE);
    });
}
}
}

```

## 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="15dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Registration Form"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:fontFamily="sans-serif-condensed"
        android:layout_gravity="center"
        android:textSize="20dp"
        android:layout_margin="10dp"/>

    <EditText
        android:id="@+id/username"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:inputType="text"
        android:layout_margin="10dp"/>

    <EditText
        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email"
        android:inputType="textEmailAddress"
        android:layout_margin="10dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Gender"

```

```

        android:textColor="@color/black"
        android:textSize="19dp"
        android:layout_marginTop="30dp"
        android:layout_marginLeft="10dp"
        android:layout_marginBottom="10dp"/>

<RadioGroup
    android:id="@+id/gender_group"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_margin="10dp">

    <RadioButton
        android:id="@+id/male"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Male"
        android:layout_marginEnd="20dp"/>

    <RadioButton
        android:id="@+id/female"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Female" />
</RadioGroup>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Favorite Activities"
    android:textColor="@color/black"
    android:textSize="19dp"
    android:layout_marginTop="30dp"
    android:layout_marginLeft="10dp"
    android:layout_marginBottom="10dp"/>

<CheckBox
    android:id="@+id/sports"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sports"
    android:layout_margin="10dp"/>

<CheckBox
    android:id="@+id/reading"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Reading"
    android:layout_margin="10dp"/>

<CheckBox
    android:id="@+id/traveling"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Traveling"
    android:layout_margin="10dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Country of Residence"
    android:textSize="18dp"

```

```

        android:textColor="@color/black"
        android:layout_marginTop="20dp"
        android:layout_marginLeft="10dp"
        android:layout_marginBottom="10dp"/>

        <Spinner
            android:id="@+id/spinner"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginLeft="10dp"/>

        <Button
            android:id="@+id/submit"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Submit"
            android:textStyle="bold"
            android:layout_gravity="center_horizontal"
            android:layout_marginTop="10dp"/>

        <TextView
            android:id="@+id/confirmation_text"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp"
            android:layout_gravity="center"
            android:text=""
            android:textSize="20dp"
            android:background="#6601FF0E"
            android:textColor="@color/black"
            android:visibility="gone"/>

    </LinearLayout>

```

## strings.xml

```

<resources>
    <string name="app_name">DemoApp</string>

    <string-array name="country_array">
        <item>United States</item>
        <item>India</item>
        <item>Canada</item>
        <item>Australia</item>
    </string-array>
</resources>

```

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## DemoApp

### Registration Form

Pratik Rathod

pratik.rathod23@pccoepune.org

Gender

☒ Male ☐ Female

Favorite Activities

☐ Sports

☒ Reading

☐ Traveling

Country of Residence

India

SUBMIT

Username: Pratik Rathod  
Email: pratik.rathod23@pccoepune.org  
Gender: Male  
Favorite Activities: Reading  
Country: India

3. Create an application that displays a list of countries and their corresponding flags using a RecyclerView. Each list item should be custom-designed to include a country's name and its flag. The user should be able to scroll through the list, and clicking on any country name should display a toast with the selected country name.



## MainActivity.java

```
package com.example.forpractice;

import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

    private RecyclerView countryRecyclerView;
    private CountryAdapter countryAdapter;
    private List<Country> countryList;

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

        countryRecyclerView = findViewById(R.id.countryRecyclerView);
        countryRecyclerView.setLayoutManager(new LinearLayoutManager(this));

        countryList = new ArrayList<>();
        countryList.add(new Country("Germany", R.drawable.germany));
        countryList.add(new Country("India", R.drawable.india));
        countryList.add(new Country("China", R.drawable.china));
        countryList.add(new Country("Australia", R.drawable.australia));

        countryAdapter = new CountryAdapter(this, countryList);
        countryRecyclerView.setAdapter(countryAdapter);
    }
}
```

## CountryAdapter.java

```
package com.example.forpractice;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import java.util.List;

public class CountryAdapter extends
RecyclerView.Adapter<CountryAdapter.CountryViewHolder> {
```

```

private Context context;
private List<Country> countryList;

public CountryAdapter(Context context, List<Country> countryList) {
    this.context = context;
    this.countryList = countryList;
}

@NonNull
@Override
public CountryViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
    View view = LayoutInflater.from(context).inflate(R.layout.country_item,
parent, false);
    return new CountryViewHolder(view);
}

@Override
public void onBindViewHolder(@NonNull CountryViewHolder holder, int
position) {
    Country country = countryList.get(position);

    holder.countryName.setText(country.getName());
    holder.countryFlag.setImageResource(country.getFlagId());

    holder.itemView.setOnClickListener(v ->
        Toast.makeText(context, country.getName(),
Toast.LENGTH_SHORT).show()
    );
}

@Override
public int getItemCount() {
    return countryList.size();
}

public static class CountryViewHolder extends RecyclerView.ViewHolder {

    TextView countryName;
    ImageView countryFlag;

    public CountryViewHolder(@NonNull View itemView) {
        super(itemView);
        countryName = itemView.findViewById(R.id.name);
        countryFlag = itemView.findViewById(R.id.flag);
    }
}
}

```

## Country.java

```

package com.example.forpractice;

public class Country {

    private String name;
    private int flagId;

    public Country(String name, int flagId) {
        this.name = name;
    }
}

```

```

        this.flagId = flagId;
    }

    public String getName() {
        return name;
    }

    public int getFlagId() {
        return flagId;
    }
}

```

## 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:background="#BE000000"
    android:orientation="vertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Country and Flag"
        android:textColor="@color/white"
        android:textStyle="bold"
        android:textSize="30dp"
        android:layout_gravity="center"
        android:layout_margin="15dp"
        android:padding="10dp"/>

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/countryRecyclerView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="16dp" />
</LinearLayout>

```

## country\_item.xml

```

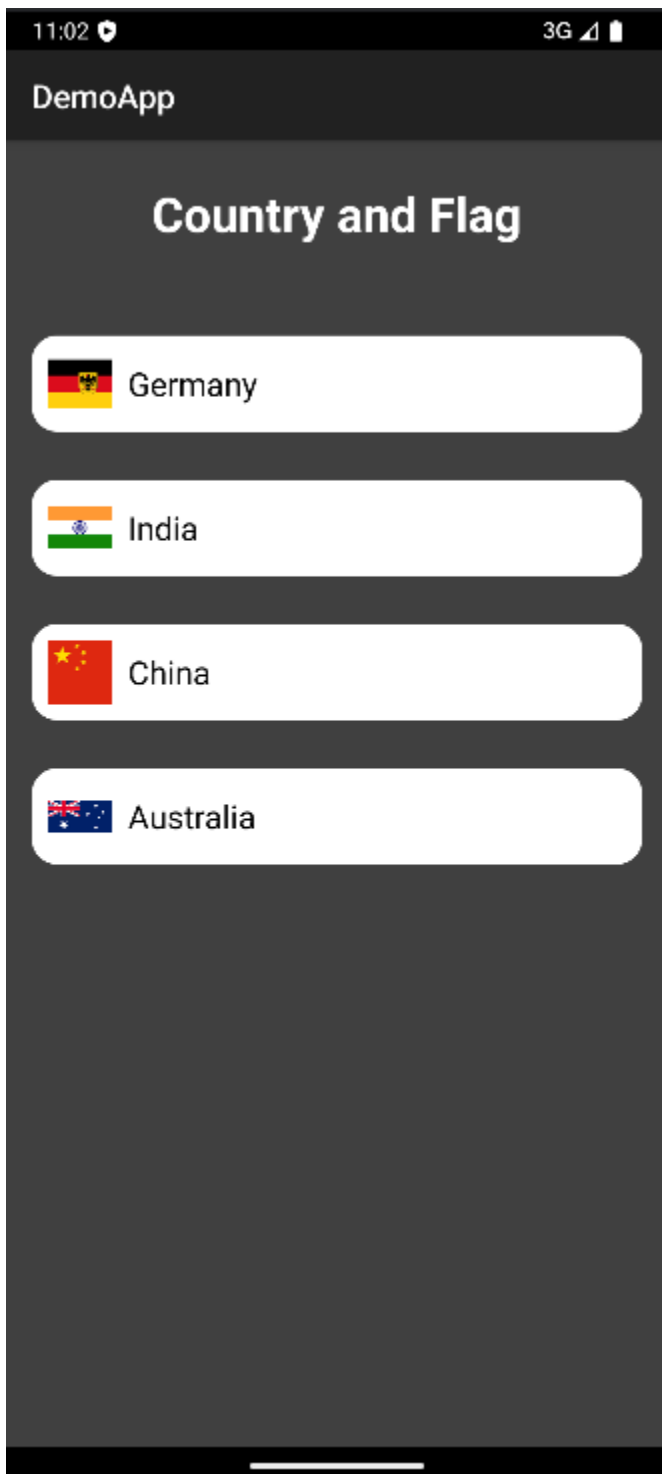
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="10dp"
    android:gravity="center_vertical"
    android:background="@drawable/rounded_back"
    android:layout_marginTop="15dp"
    android:layout_marginBottom="15dp">

    <ImageView

```

```
        android:id="@+id/flag"
        android:layout_width="40dp"
        android:layout_height="40dp"
        android:layout_marginEnd="10dp"
        android:contentDescription="Country Flag" />

        <TextView
            android:id="@+id/name"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20sp"
            android:textColor="@color/black" />
    </LinearLayout>
```



4. Design an event scheduling application where the user can select the date and time of an event. The app should allow the user to pick a date using a `DatePickerDialog` and a time using a `TimePickerDialog`. Once the user selects the date and time, display the event details (including the selected date and time) in a `TextView`.

### MainActivity.java

```
package com.example.forpractice;

import android.app.DatePickerDialog;
import android.app.TimePickerDialog;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.TextView;
import android.widget.TimePicker;
import androidx.appcompat.app.AppCompatActivity;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

    private Button btnDate, btnTime;
    private TextView details;
    private int yearInt, monthInt, dayInt, hourInt, minuteInt;

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

        btnDate = findViewById(R.id.date);
        btnTime = findViewById(R.id.time);
        details = findViewById(R.id.details);

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

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

    private void openDatePickerDialog() {
        final Calendar calendar = Calendar.getInstance();
        int year = calendar.get(Calendar.YEAR);
        int month = calendar.get(Calendar.MONTH);
```

```

        int day = calendar.get(Calendar.DAY_OF_MONTH);

        DatePickerDialog datePickerDialog = new DatePickerDialog(
            MainActivity.this,
            new DatePickerDialog.OnDateSetListener() {
                @Override
                public void onDateSet(DatePicker view, int year, int month,
int dayOfMonth) {
                    yearInt = year;
                    monthInt = month;
                    dayInt = dayOfMonth;
                    updateEventDetails();
                }
            },
            year, month, day
        );
        datePickerDialog.show();
    }

    private void openTimePickerDialog() {
        final Calendar calendar = Calendar.getInstance();
        int hour= calendar.get(Calendar.HOUR_OF_DAY);
        int minute = calendar.get(Calendar.MINUTE);

        TimePickerDialog timePickerDialog = new TimePickerDialog(
            MainActivity.this,
            new TimePickerDialog.OnTimeSetListener() {
                @Override
                public void onTimeSet(TimePicker view, int hourOfDay, int
minute) {
                    hourInt = hourOfDay;
                    minuteInt = minute;
                    updateEventDetails();
                }
            },
            hour, minute, true
        );
        timePickerDialog.show();
    }

    private void updateEventDetails() {
        String eventDetails = "Selected Date: " + dayInt + "/" + (monthInt + 1)
+ "/" + yearInt
        + "\nSelected Time: " + String.format("%02d:%02d", hourInt,
minuteInt);
        details.setText(eventDetails);
    }
}

```

## 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="20dp">
    <Button
        android:id="@+id/date"

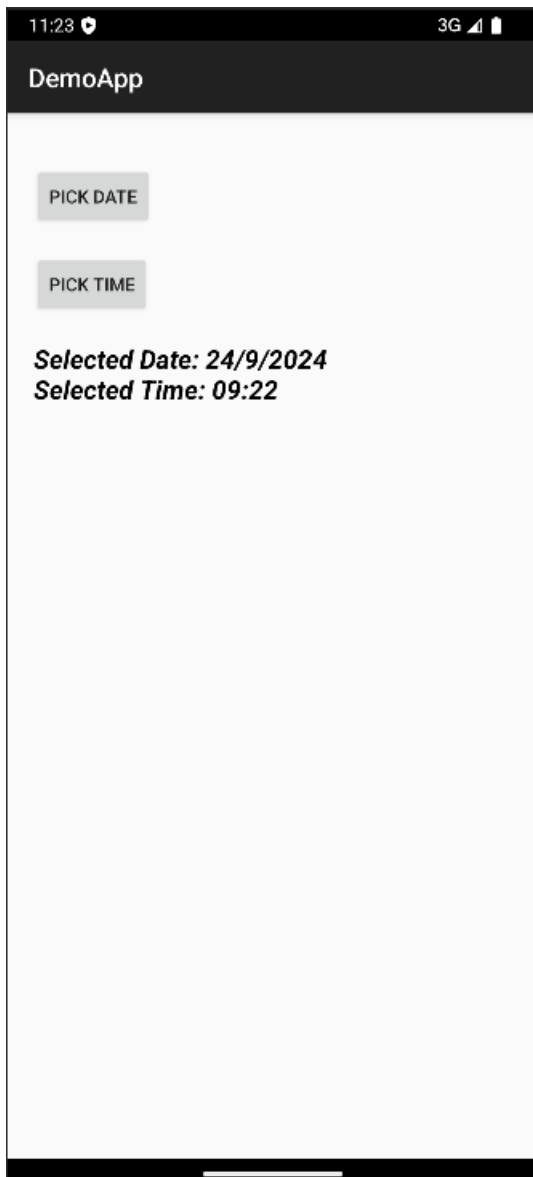
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pick Date"
        android:layout_marginTop="20dp"/>

        <Button
            android:id="@+id/time"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Pick Time"
            android:layout_marginTop="20dp" />

        <TextView
            android:id="@+id/details"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Event details will be shown here"
            android:textSize="20dp"
            android:textColor="@color/black"
            android:textStyle="bold|italic"
            android:layout_marginTop="20dp" />

    </LinearLayout>
```



5. Create a media player application that allows the user to play both audio and video files. The app should display a static image using an ImageView and load an image from a URL using the Glide or Picasso library. Implement buttons for playing an audio file and playing a video file from a URL or local storage. Provide basic controls like play and pause.

### MainActivity.java

```
package com.example.forpractice;

import android.media.MediaPlayer;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Toast;
import android.widget.VideoView;
import androidx.appcompat.app.AppCompatActivity;
import com.bumptech.glide.Glide;
import java.io.IOException;

public class MainActivity extends AppCompatActivity {
    private ImageView image;
    private Button btnimage, playAudio, pauseAudio, playVideo, pauseVideo;
    private MediaPlayer mediaPlayer;
    private VideoView video;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        image = findViewById(R.id.image);
        btnimage = findViewById(R.id.btnimage);
        playAudio = findViewById(R.id.playAudio);
        pauseAudio = findViewById(R.id.pauseAudio);
        playVideo = findViewById(R.id.playVideo);
        pauseVideo = findViewById(R.id.pauseVideo);
        video = findViewById(R.id.video);

        btnimage.setOnClickListener(v -> loadImageFromUrl());

        playAudio.setOnClickListener(v -> playAudio());

        pauseAudio.setOnClickListener(v -> pauseAudio());

        playVideo.setOnClickListener(v -> playVideo());

        pauseVideo.setOnClickListener(v -> pauseVideo());
    }

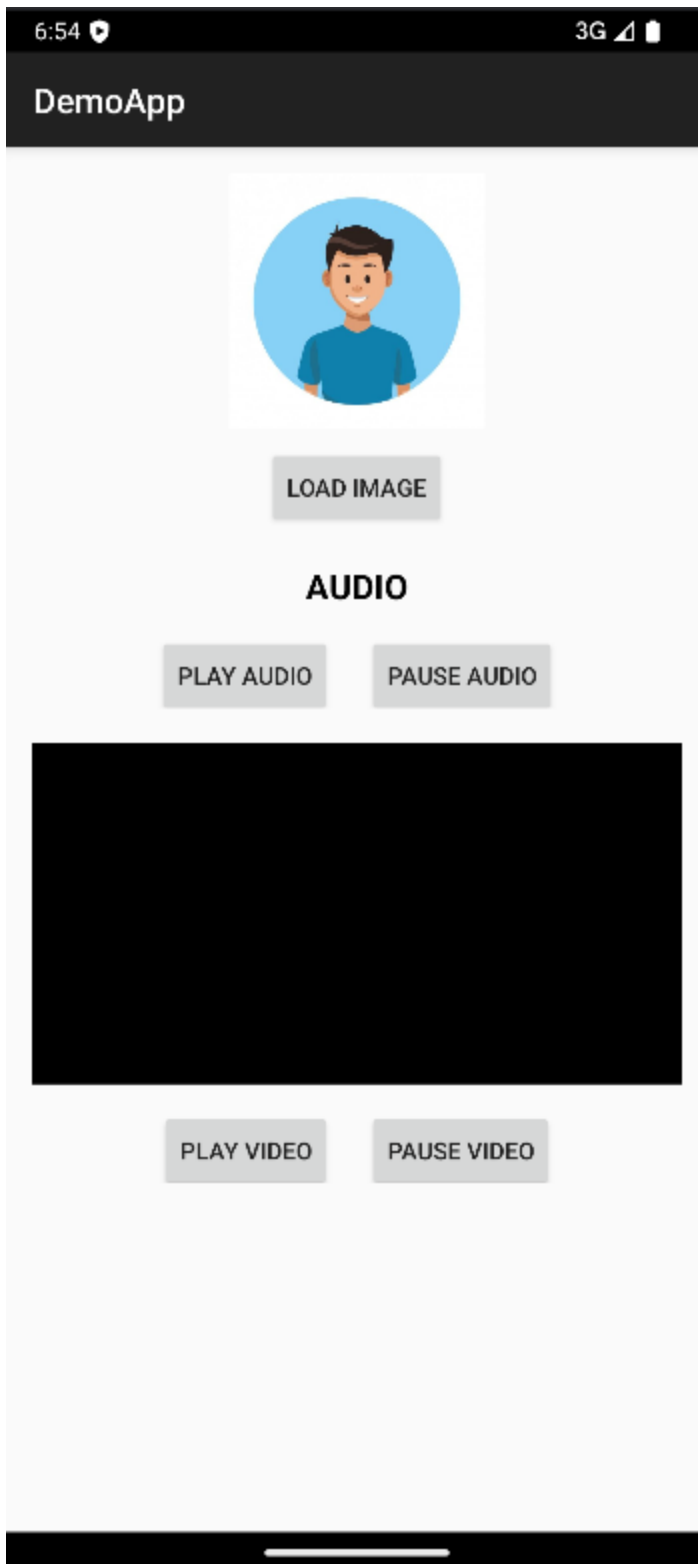
    private void loadImageFromUrl() {
        String imageUrl = "https://drive.google.com/file/d/1PKx6Wx74emwO-N6lGDUR2R7xA1hO6Pdh/view?usp=drive_link\n";
        Glide.with(this)
            .load(imageUrl)
```



```

        .placeholder(R.drawable.profile)
        .into(image);
    }
    private void playAudio() {
        if (mediaPlayer == null) {
            mediaPlayer = new MediaPlayer();
            try {
mediaPlayer.setDataSource("https://youtu.be/ewdSmjMbsP0?si=YXed9j3mTT6BNmr8\n")
;
                mediaPlayer.prepare();
            } catch (IOException e) {
                e.printStackTrace();
                Toast.makeText(this, "Error playing
audio", Toast.LENGTH_SHORT).show();
            }
        } mediaPlayer.start();
    }
    private void pauseAudio() {
        if (mediaPlayer != null && mediaPlayer.isPlaying()) {
            mediaPlayer.pause();
        }
    }
    private void playVideo() {
        String videoUrl =
"https://drive.google.com/uc?export=download&id=1bsMaCpogH1rr9XTQNZZ01A_oOHG77c
uU\n";
        video.setVideoURI(Uri.parse(videoUrl));
        video.start();
    }
    private void pauseVideo() {
        if (video.isPlaying()) {
            video.pause();
        }
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        if (mediaPlayer != null) {
            mediaPlayer.release();
            mediaPlayer = null;
        }
    }
}

```



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="15dp">

<ImageView
    android:id="@+id/image"
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:layout_gravity="center"
    android:scaleType="centerCrop"
    android:src="@drawable/profile" />

<Button
    android:id="@+id/btnimage"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Load Image"
    android:layout_marginTop="10dp"
    android:layout_gravity="center"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="AUDIO"
    android:textStyle="bold"
    android:textColor="@color/black"
    android:textSize="20dp"
    android:layout_gravity="center"
    android:layout_marginTop="20dp"/>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">

    <Button
        android:id="@+id/playAudio"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Play Audio"
        android:layout_marginTop="10dp"
        android:layout_marginRight="20dp"/>

    <Button
        android:id="@+id/pauseAudio"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pause Audio"
        android:layout_marginTop="10dp"/>

</LinearLayout>

<VideoView
    android:id="@+id/video"
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_marginTop="20dp"/>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
```

```

        <Button
            android:id="@+id/playVideo"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Play Video"
            android:layout_marginTop="10dp"
            android:layout_marginRight="20dp"/>

        <Button
            android:id="@+id/pauseVideo"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Pause Video"
            android:layout_marginTop="10dp"/>

    </LinearLayout>

</LinearLayout>

```

6. Develop a photo gallery application where users can scroll through a collection of images. Use a ScrollView to display the images in a vertical scroll layout. Additionally, implement a ViewFlipper that cycles through the images automatically or on button click. Lastly, create a tabbed interface with two tabs: "Photos" and "Videos". Each tab should display relevant content.

MainActivity.java

```

package com.example.forpractice;

import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.viewpager2.widget.ViewPager2;

import com.example.forpractice.TabAdapter;
import com.google.android.material.tabs.TabLayout;
import com.google.android.material.tabs.TabLayoutMediator;

public class MainActivity extends AppCompatActivity {
    private TabLayout tabLayout;
    private ViewPager2 viewPager;
    private TabAdapter tabAdapter;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        tabLayout = findViewById(R.id.tabLayout);
        viewPager = findViewById(R.id.viewPager);
        tabAdapter = new TabAdapter(this);
        viewPager.setAdapter(tabAdapter);
        new TabLayoutMediator(tabLayout, viewPager, (tab, position) -> {
            if (position == 0) {
                tab.setText("Photos");
            } else {
                tab.setText("Videos");
            }
        }).attach();
    }
}

```

```
}  
}
```

## TabAdapter.java

```
package com.example.forpractice;  
  
import androidx.annotation.NonNull;  
import androidx.fragment.app.Fragment;  
import androidx.fragment.app.FragmentActivity;  
import androidx.viewpager2.adapter.FragmentStateAdapter;  
public class TabAdapter extends FragmentStateAdapter {  
    public TabAdapter(@NonNull FragmentActivity fragmentActivity) {  
        super(fragmentActivity);  
    }  
    @NonNull  
    @Override  
    public Fragment createFragment(int position) {  
        switch (position) {  
            case 0:  
                return new PhotosFragment();  
            case 1:  
                return new VideosFragment();  
            default:  
                return new PhotosFragment();  
        }  
    }  
    @Override  
    public int getItemCount() {  
        return 2;  
    }  
}
```

## PhotosFragment

```
package com.example.forpractice;  
  
import android.os.Bundle;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.Button;  
import android.widget.ViewFlipper;  
import androidx.annotation.NonNull;  
import androidx.annotation.Nullable;  
import androidx.fragment.app.Fragment;  
public class PhotosFragment extends Fragment {  
    private ViewFlipper viewFlipper;  
    private Button nextButton;  
    @Nullable  
    @Override  
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable  
        ViewGroup container, @Nullable Bundle savedInstanceState) {  
        View view = inflater.inflate(R.layout.fragment_photos, container,  
            false);  
        viewFlipper = view.findViewById(R.id.viewFlipper);  
        nextButton = view.findViewById(R.id.nextButton);  
        nextButton.setOnClickListener(v -> viewFlipper.showNext());  
    }  
}
```

```

        return view;
    }
}

```

## VideosFragment

```

package com.example.forpractice;

import android.net.Uri;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.VideoView;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

import com.example.forpractice.R;

public class VideosFragment extends Fragment {
    private VideoView videoView;
    private Button playVideoButton;
    @Nullable
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable
ViewGroup container, @Nullable Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_videos, container,
false);
        videoView = view.findViewById(R.id.videoView);
        playVideoButton = view.findViewById(R.id.playVideoButton);
        playVideoButton.setOnClickListener(v -> playVideo());
        return view;
    }
    private void playVideo() {
        String videoUrl =

"https://drive.google.com/uc?export=download&id=1bsMaCpogH1rr9XTQNZZ01A_oOHG77c
uU\n";
        Uri videoUri = Uri.parse(videoUrl);
        videoView.setVideoURI(videoUri);
        videoView.start();
    }
}

```

## activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.coordinatorlayout.widget.CoordinatorLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <com.google.android.material.appbar.AppBarLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">
        <com.google.android.material.tabs.TabLayout

```

```

        android:id="@+id/tabLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:tabIndicatorColor="@color/design_default_color_primary" />
    </com.google.android.material.appbar.AppBarLayout>
    <androidx.viewpager2.widget.ViewPager2
        android:id="@+id/viewPager"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_behavior="@string/appbar_scrolling_view_behavior" />
</androidx.coordinatorlayout.widget.CoordinatorLayout>

```

## Fragment\_photos.xml

```

<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    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">
        <ViewFlipper
            android:id="@+id/viewFlipper"
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:layout_gravity="center"
            android:autoStart="true"
            android:flipInterval="2000">
            <ImageView
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:src="@drawable/image1" />
            <ImageView
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:src="@drawable/image2" />
            <ImageView
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:src="@drawable/image3" />
        </ViewFlipper>
        <Button
            android:id="@+id/nextButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Next Image" />
        <ImageView
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:layout_marginTop="16dp"
            android:src="@drawable/australia" />
        <ImageView
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:layout_marginTop="16dp"
            android:src="@drawable/india" />

    </LinearLayout>
</ScrollView>

```

## Fragment\_videos.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">
    <VideoView
        android:id="@+id/videoView"
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:layout_marginBottom="16dp" />
    <Button
        android:id="@+id/playVideoButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Play Video" />
</LinearLayout>
```





7. Build a notification center application that provides different types of user feedback.

Implement buttons that trigger the following:

- A. An AlertDialog asking the user for confirmation (e.g., Are you sure you want to delete this item;).
- B. A Toast that displays a short success message.
- C. A PopupWindow that shows additional options when a user clicks on a specific button. Customize the appearance of each of these UI components.

MainActivity.java

```
package com.example.forpractice;

import android.os.Bundle;
import android.view.Gravity;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.PopupWindow;
import android.widget.Toast;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    private Button alertDialogButton, toastButton, popupButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        alertDialogButton = findViewById(R.id.alertDialogButton);
        toastButton = findViewById(R.id.toastButton);
        popupButton = findViewById(R.id.popupButton);
        alertDialogButton.setOnClickListener(v -> showAlertDialog());
        toastButton.setOnClickListener(v -> showToast());
        popupButton.setOnClickListener(v -> showPopupWindow(v));
    }

    private void showAlertDialog() {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setTitle("Confirmation");
        builder.setMessage("Are you sure you want to delete this item?");
        builder.setPositiveButton("Yes", (dialog, which) -> {
            Toast.makeText(this, "Item Deleted", Toast.LENGTH_SHORT).show();
        });
        builder.setNegativeButton("No", (dialog, which) -> dialog.dismiss());
        AlertDialog dialog = builder.create();
        dialog.show();
    }

    private void showToast() {
        Toast toast = Toast.makeText(this, "Action completed successfully",
            Toast.LENGTH_SHORT);
        toast.setGravity(Gravity.CENTER, 0, 0);
        toast.show();
    }
}
```

```

private void showPopupWindow(View anchorView) {
    LayoutInflater inflater = (LayoutInflater)
        getSystemService(LAYOUT_INFLATER_SERVICE);
    View popupView = inflater.inflate(R.layout.popup, null);
    final PopupWindow popupWindow = new PopupWindow(
        popupView,
        ViewGroup.LayoutParams.WRAP_CONTENT,
        ViewGroup.LayoutParams.WRAP_CONTENT,
        true
    );
    popupWindow.showAtLocation(anchorView, Gravity.CENTER, 0, 0);
    Button dismissButton = popupView.findViewById(R.id.dismissPopupButton);
    dismissButton.setOnClickListener(v -> popupWindow.dismiss());
}
}

```

## 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/alertDialogButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show AlertDialog" />
    <Button
        android:id="@+id/toastButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Toast"
        android:layout_marginTop="20dp"/>
    <Button
        android:id="@+id/popupButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show PopupWindow"
        android:layout_marginTop="20dp"/>
</LinearLayout>

```

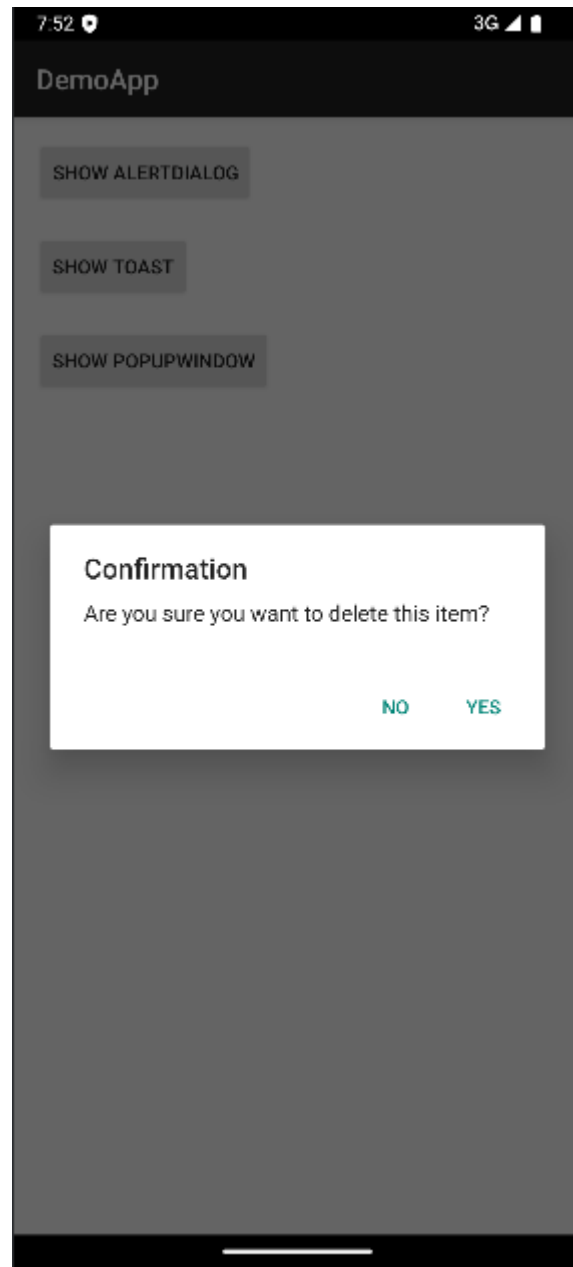
## Popup.xml

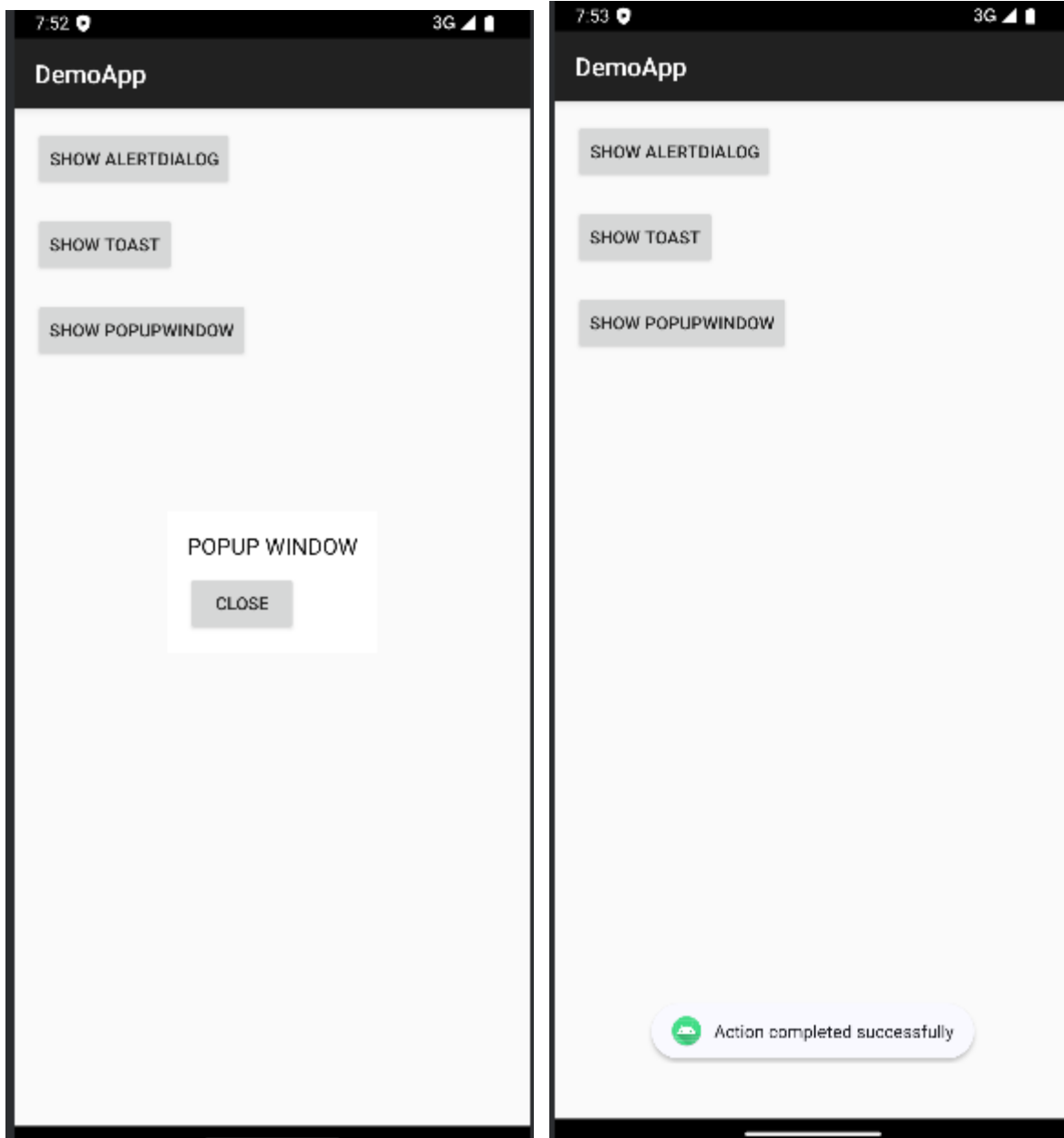
```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:padding="16dp"
    android:background="@android:color/white">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="POPOP WINDOW"
        android:textSize="18sp"
        android:textColor="@android:color/black"/>
    <Button

```

```
        android:id="@+id/dismissPopupButton"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:text="CLOSE"  
        android:layout_marginTop="10dp"/>  
</LinearLayout>
```





8. Design a mobile application with a navigation bar at the top. The app should have an options menu that includes items like Settings, Profile, and & Logout. Additionally, implement a context menu that appears when a user long presses on an item in a RecyclerView. Create a button that displays a popup menu with options like Edit, Share, and Delete when clicked.

Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
```

```

<androidx.appcompat.widget.Toolbar
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="?attr/colorPrimary"
    android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar"
    app:popupTheme="@style/ThemeOverlay.AppCompat.Light" />
<androidx.recyclerview.widget.RecyclerView
    android:id="@+id/recyclerView"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_marginTop="8dp"
    app:layout_constraintTop_toBottomOf="@id/toolbar"
    app:layout_constraintBottom_toTopOf="@+id/popup_button"/>
<Button
    android:id="@+id/popup_button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Show Popup Menu"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/recyclerView" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/context_edit"
        android:title="Edit"/>
    <item android:id="@+id/context_share"
        android:title="Share"/>
    <item android:id="@+id/context_delete"
        android:title="Delete"/>
</menu>

```

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/settings"
        android:title="Settings"/>
    <item android:id="@+id/profile"
        android:title="Profile"/>
    <item android:id="@+id/logout"
        android:title="Logout"/>
</menu>

```

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/edit"
        android:title="Edit"/>
    <item android:id="@+id/share"
        android:title="Share"/>
    <item android:id="@+id/delete"
        android:title="Delete"/>
</menu>

```

## MainActivity.java

```

import android.os.Bundle;
import android.view.Menu;

```

```

import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.PopupMenu;
import androidx.appcompat.widget.Toolbar;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
public class MainActivity extends AppCompatActivity {
    private int selectedPosition;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toolbar toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        RecyclerView recyclerView = findViewById(R.id.recyclerView);
        recyclerView.setLayoutManager(new LinearLayoutManager(this));
        MyAdapter adapter = new MyAdapter();
        recyclerView.setAdapter(adapter);
        registerForContextMenu(recyclerView);
        Button popupButton = findViewById(R.id.popup_button);
        popupButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                showPopupMenu(v);
            }
        });
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.options_menu, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        int id = item.getItemId();
        if (id == R.id.settings) {
            Toast.makeText(this, "Settings clicked",
Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.profile) {
            Toast.makeText(this, "Profile clicked", Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.logout) {
            Toast.makeText(this, "Logout clicked", Toast.LENGTH_SHORT).show();
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
    private void showPopupMenu(View view) {
        PopupMenu popup = new PopupMenu(this, view);
        popup.getMenuInflater().inflate(R.menu.popup_menu, popup.getMenu());
        popup.setOnMenuItemClickListener(new
PopupMenu.OnMenuItemClickListener()
        {
            @Override
            public boolean onMenuItemClick(MenuItem item) {
                int id = item.getItemId();

```

```

        if (id == R.id.edit) {
            Toast.makeText(MainActivity.this, "Edit clicked",
                Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.share) {
            Toast.makeText(MainActivity.this, "Share clicked",
                Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.delete) {
            Toast.makeText(MainActivity.this, "Delete clicked",
                Toast.LENGTH_SHORT).show();
            return true;
        }
        return false;
    }
});
popup.show();
}
@Override
public void onCreateContextMenu(@NonNull android.view.ContextMenu menu,
    @NonNull View v, @NonNull
android.view.ContextMenu.ContextMenuInfo menuInfo) {
    super.onCreateContextMenu(menu, v, menuInfo);
    getMenuInflater().inflate(R.menu.context_menu, menu);
}
@Override
public boolean onContextItemSelected(@NonNull MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.context_edit) {
        Toast.makeText(this, "Context Edit clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    } else if (id == R.id.context_share) {
        Toast.makeText(this, "Context Share clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    } else if (id == R.id.context_delete) {
        Toast.makeText(this, "Context Delete clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    }
    return super.onContextItemSelected(item);
}
public void setSelectedPosition(int position) {
    selectedPosition = position;
}
}

```

9. Create a feedback form for an e-commerce application. The form should collect the users name (EditText), email address (EditText), rating for the service (RatingBar), and any additional comments (EditText). Validate that the name and email fields are not left empty and that the email follows a proper format. On form submission, display a confirmation message using a Toast, and reset the form fields.

MainActivity.java

```

package com.example.forpractice;

import android.os.Bundle;
import android.text.TextUtils;
import android.util.Patterns;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RatingBar;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

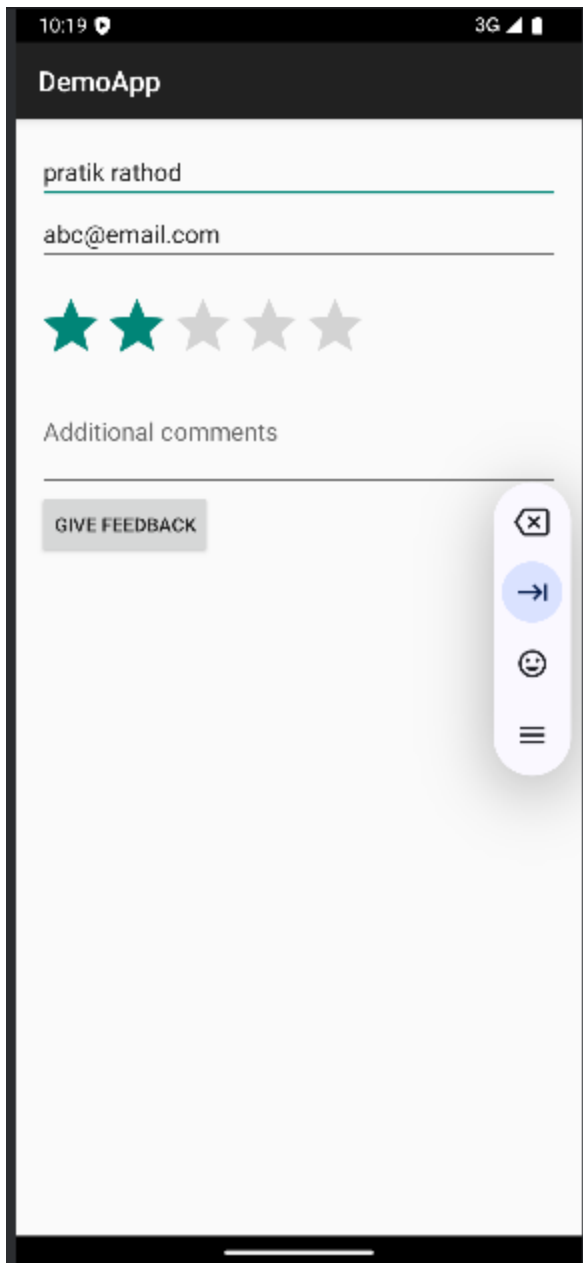
public class MainActivity extends AppCompatActivity {
    private EditText nameInput, emailInput, commentsInput;
    private RatingBar ratingBar;
    private Button submitButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        nameInput = findViewById(R.id.name_input);
        emailInput = findViewById(R.id.email_input);
        ratingBar = findViewById(R.id.rating_bar);
        commentsInput = findViewById(R.id.comments_input);
        submitButton = findViewById(R.id.feedback_button);
        submitButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                submitFeedback();
            }
        });
    }
    private void submitFeedback() {
        String name = nameInput.getText().toString().trim();
        String email = emailInput.getText().toString().trim();
        String comments = commentsInput.getText().toString().trim();
        float rating = ratingBar.getRating();
        if (TextUtils.isEmpty(name)) {
            nameInput.setError("Name is required");
            return;
        }
        if (TextUtils.isEmpty(email)) {
            emailInput.setError("Email is required");
            return;
        }
        if (!Patterns.EMAIL_ADDRESS.matcher(email).matches()) {
            emailInput.setError("Please enter a valid email");
            return;
        }
        Toast.makeText(this, "Thank you for your feedback!",
Toast.LENGTH_SHORT).show();
        nameInput.setText("");
        emailInput.setText("");
        ratingBar.setRating(0);
        commentsInput.setText("");
    }
}

```

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/name_input"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your name"
        android:inputType="textPersonName" />
    <EditText
        android:id="@+id/email_input"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your email"
        android:inputType="textEmailAddress" />
    <RatingBar
        android:id="@+id/rating_bar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:numStars="5"
        android:stepSize="1.0"
        android:layout_marginTop="20dp"/>
    <EditText
        android:id="@+id/comments_input"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Additional comments"
        android:inputType="textMultiLine"
        android:minLines="3" />
    <Button
        android:id="@+id/feedback_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Give Feedback" />
</LinearLayout>
```



10. Design a reservation form for booking a table at a restaurant. The form should have fields for selecting the number of guests (NumberPicker), date (DatePicker), time (TimePicker), and any special requests (EditText). Once all details are filled out, the user should click a "Reserve" button that displays the entered details in a confirmation AlertDialog. The form should reset after the reservation is confirmed.

MainActivity.java

```
package com.example.forpractice;  
  
import android.app.DatePickerDialog;
```

```

import android.app.TimePickerDialog;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.NumberPicker;
import android.widget.Toast;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

    private NumberPicker numberPickerGuests;
    private Button buttonSelectDate, buttonSelectTime, buttonReserve;
    private EditText editTextSpecialRequests;

    private String selectedDate = "";
    private String selectedTime = "";

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

        numberPickerGuests = findViewById(R.id.numberPickerGuests);
        buttonSelectDate = findViewById(R.id.buttonSelectDate);
        buttonSelectTime = findViewById(R.id.buttonSelectTime);
        buttonReserve = findViewById(R.id.buttonReserve);
        editTextSpecialRequests = findViewById(R.id.editTextSpecialRequests);

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

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

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

    private void showDatePickerDialog() {
        final Calendar calendar = Calendar.getInstance();
        int year = calendar.get(Calendar.YEAR);
        int month = calendar.get(Calendar.MONTH);
        int day = calendar.get(Calendar.DAY_OF_MONTH);

        DatePickerDialog datePickerDialog = new DatePickerDialog(this,
            (view, selectedYear, selectedMonth, selectedDay) -> {

```

```

                selectedDate = selectedDay + "/" + (selectedMonth + 1) +
"/" + selectedYear;
                buttonSelectDate.setText(selectedDate);
            }, year, month, day);
            datePickerDialog.show();
        }

        private void showTimePickerDialog() {
            final Calendar calendar = Calendar.getInstance();
            int hour = calendar.get(Calendar.HOUR_OF_DAY);
            int minute = calendar.get(Calendar.MINUTE);

            TimePickerDialog timePickerDialog = new TimePickerDialog(this,
                (view, selectedHour, selectedMinute) -> {
                    selectedTime = String.format("%02d:%02d", selectedHour,
selectedMinute);
                    buttonSelectTime.setText(selectedTime);
                }, hour, minute, true);
            timePickerDialog.show();
        }

        private void confirmReservation() {
            int numberOfGuests = numberPickerGuests.getValue();
            String specialRequests = editTextSpecialRequests.getText().toString();

            String message = "Reservation Details:\n" +
                "Number of Guests: " + numberOfGuests + "\n" +
                "Date: " + selectedDate + "\n" +
                "Time: " + selectedTime + "\n" +
                "Special Requests: " + specialRequests;

            new AlertDialog.Builder(this)
                .setTitle("Confirm Reservation")
                .setMessage(message)
                .setPositiveButton("Confirm", new
DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialog, int which) {
                        // Reset the form
                        resetForm();
                        Toast.makeText(MainActivity.this, "Reservation
Confirmed!", Toast.LENGTH_SHORT).show();
                    }
                })
                .setNegativeButton("Cancel", null)
                .show();
        }

        private void resetForm() {
            numberPickerGuests.setValue(1);
            buttonSelectDate.setText("Select Date");
            buttonSelectTime.setText("Select Time");
            editTextSpecialRequests.setText("");
            selectedDate = "";
            selectedTime = "";
        }
    }
}

```

activity\_main.xml

```

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

```

```
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:padding="16dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Number of Guests" />

        <NumberPicker
            android:id="@+id/numberPickerGuests"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content" />

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Date"/>

        <Button
            android:id="@+id/buttonSelectDate"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Select Date" />

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Time" />

        <Button
            android:id="@+id/buttonSelectTime"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Select Time" />

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Special Requests" />

        <EditText
            android:id="@+id/editTextSpecialRequests"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter any special requests" />

        <Button
            android:id="@+id/buttonReserve"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Reserve" />

    </LinearLayout>
```

## DemoApp

Number of Guests

---

0

---

Date

SELECT DATE

Time

SELECT TIME

Special Requests

---

Enter any special requests

---

RESERVE