**Problem Statement:** Create an application to Display Recycler View of Restaurant names with images.

**AndroidManifest.xml Manifest File:**

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools">

<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.Ad\_list19\_20"

tools:targetApi="31">

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

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

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

</intent-filter>

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</activity>

</application>

</manifest>

**activity\_main.xml Layout Resource File:**

<?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">

<androidx.recyclerview.widget.RecyclerView

android:id="@+id/recyclerView"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"/>

</RelativeLayout>

**Recycler\_row.xml Layout Resource File:**

<?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">

<ImageView

android:id="@+id/FruitImage"

android:layout\_width="71dp"

android:layout\_height="63dp"

android:layout\_marginEnd="10dp"

android:src="@drawable/default\_image" />

<TextView

android:id="@+id/FruitName"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textSize="20sp"/>

</LinearLayout>

**colors.xml Values Resource File:**

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

<resources>

<color name="purple\_200">#FFBB86FC</color>

<color name="purple\_500">#FF6200EE</color>

<color name="purple\_700">#FF3700B3</color>

<color name="teal\_200">#FF03DAC5</color>

<color name="teal\_700">#FF018786</color>

<color name="black">#FF000000</color>

<color name="white">#FFFFFFFF</color>

</resources>

**strings.xml Values Resource File:**

<resources>

<string name="app\_name">Ad\_list19\_20</string>

</resources>

**MainActivity.java JAVA File:**

package com.example.ad\_list19\_20;

import androidx.appcompat.app.AppCompatActivity;

import androidx.recyclerview.widget.LinearLayoutManager;

import androidx.recyclerview.widget.RecyclerView;

import android.os.Bundle;

import android.view.View;

import android.widget.Toast;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity implements MyRecyclerViewAdapter.ItemClickListener {

MyRecyclerViewAdapter adapter;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// data to populate the RecyclerView with

ArrayList<String> names = new ArrayList<>();

// names.add("The Shawshank Redemption (1994)");

// names.add("The Godfather (1972)");

// names.add("The Dark Knight (2008)");

// names.add("The Lord of the Rings: The Return of the King (2003)");

// names.add("Schindler's List (1993)");

// names.add("Pulp Fiction (1994)");

// names.add("12 Angry Men (1957)");

// names.add("The Lord of the Rings: The Fellowship of the Ring (2001)");

// names.add("The Good, the Bad and the Ugly (1966)");

// names.add("Forrest Gump (1994)");

// names.add("Parasite (2019)");

// names.add("Spirited Away (2001)");

// names.add("Inception (2010)");

names.add("Malaka Spice - Pan-Asian");

names.add("Paasha - North-West Frontier & Continental");

names.add("Little Italy - Italian");

names.add("Feast at Sheraton Grand - Multi-cuisine Buffet");

names.add("La Magia - Vegetarian Italian");

names.add("ABC - Casual Dining");

names.add("Olive Garden - Italian");

names.add("The Irish House - Pub & Kitchen");

names.add("Marzorin - European");

names.add("Punekars - Maharashtrian");

names.add("German Bakery - Bakery & Cafe");

names.add("Vaughan's - Desserts & Beverages");

names.add("George - Multi-cuisine");

ArrayList<Integer> images = new ArrayList<>();

// images.add(R.drawable.shawshank);

// images.add(R.drawable.godfather);

// images.add(R.drawable.darkknight);

// images.add(R.drawable.lor);

// images.add(R.drawable.schinlerlist);

// images.add(R.drawable.pulpfiction);

// images.add(R.drawable.angrymen);

// images.add(R.drawable.lor2);

// images.add(R.drawable.goodbadugly);

// images.add(R.drawable.forrestgump);

// images.add(R.drawable.parasite);

// images.add(R.drawable.spiritedaway);

// images.add(R.drawable.inception);

images.add(R.drawable.malakaspice);

images.add(R.drawable.paasha);

images.add(R.drawable.littleitaly);

images.add(R.drawable.feastsheratongrand);

images.add(R.drawable.lamagia);

images.add(R.drawable.abc);

images.add(R.drawable.olivegarden);

images.add(R.drawable.irishhouse);

images.add(R.drawable.marzorin);

images.add(R.drawable.punekars);

images.add(R.drawable.germanbakery);

images.add(R.drawable.vaughans);

images.add(R.drawable.george);

// set up the RecyclerView

RecyclerView recyclerView = findViewById(R.id.recyclerView);

recyclerView.setLayoutManager(new LinearLayoutManager(this));

adapter = new MyRecyclerViewAdapter(this, names, images);

adapter.setClickListener((MyRecyclerViewAdapter.ItemClickListener) this);

recyclerView.setAdapter(adapter);

}

@Override

public void onItemClick(View view, int position) {

Toast.makeText(this, "You clicked " + adapter.getItem(position) + " on row number " + position, Toast.LENGTH\_SHORT).show();

}

}

**MyRecyclerViewAdapter.java JAVA File:**

package com.example.ad\_list19\_20;

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 androidx.recyclerview.widget.RecyclerView;

import java.util.List;

public class MyRecyclerViewAdapter extends RecyclerView.Adapter<MyRecyclerViewAdapter.ViewHolder> {

private List<String> mData;

private List<Integer> mImages;

private LayoutInflater mInflater;

private ItemClickListener mClickListener;

// data is passed into the constructor

MyRecyclerViewAdapter(Context context, List<String> data, List<Integer> images) {

this.mInflater = LayoutInflater.from(context);

this.mData = data;

this.mImages = images;

}

// inflates the row layout from xml when needed

@Override

public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {

View view = mInflater.inflate(R.layout.recycler\_row, parent, false);

return new ViewHolder(view);

}

// binds the data to the TextView in each row

@Override

public void onBindViewHolder(ViewHolder holder, int position) {

String fruit = mData.get(position);

int imageResource = mImages.get(position);

holder.myTextView.setText(fruit);

holder.myImageView.setImageResource(imageResource);

}

// total number of rows

@Override

public int getItemCount() {

return mData.size();

}

// stores and recycles views as they are scrolled off screen

public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {

TextView myTextView;

ImageView myImageView;

ViewHolder(View itemView) {

super(itemView);

myTextView = itemView.findViewById(R.id.FruitName);

myImageView = itemView.findViewById(R.id.FruitImage);

itemView.setOnClickListener(this);

}

@Override

public void onClick(View view) {

if (mClickListener != null) mClickListener.onItemClick(view, getAdapterPosition());

}

}

// convenience method for getting data at click position

String getItem(int id) {

return mData.get(id);

}

// allows clicks events to be caught

void setClickListener(ItemClickListener itemClickListener) {

this.mClickListener = itemClickListener;

}

// parent activity will implement this method to respond to click events

public interface ItemClickListener {

void onItemClick(View view, int position);

}

}

**OUTPUT:**

