**Recycler view**

**Main**

package com.example.recyclerview;  
  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.constraintlayout.widget.ConstraintLayout;  
import androidx.recyclerview.widget.GridLayoutManager;  
import androidx.recyclerview.widget.LinearLayoutManager;  
import androidx.recyclerview.widget.RecyclerView;  
  
import android.content.DialogInterface;  
import android.os.Bundle;  
import android.view.View;  
  
import com.google.android.material.snackbar.Snackbar;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class MainActivity extends AppCompatActivity {  
 RecyclerView rcMain;  
 List<Car> carList;  
 Car car;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 rcMain = findViewById(R.id.*rc\_main*);  
 ConstraintLayout layout = findViewById(R.id.*main\_root*);  
  
 generateData();  
 CarAdapter adapter = new CarAdapter(carList);  
 rcMain.setLayoutManager(new LinearLayoutManager(this));  
 adapter.setOnItemLongClickListener(new CarAdapter.OnItemLongClickListener() {  
 @Override  
 public void onItemLongClick(int position) {  
 AlertDialog dialog = new AlertDialog.Builder(MainActivity.this)  
 .setTitle("Deletion")  
 .setMessage("Do you want to delete?")  
 .setNegativeButton("No", new DialogInterface.OnClickListener() {  
 @Override  
 public void onClick(DialogInterface dialog, int which) {  
 dialog.dismiss();  
 }  
 })  
 .setPositiveButton("Yes", new DialogInterface.OnClickListener() {  
 @Override  
 public void onClick(DialogInterface dialog, int which) {  
 car = carList.get(position);  
 carList.remove(position);  
 adapter.notifyItemRemoved(position);  
  
 Snackbar.*make*(layout, "Item deleted successfully", Snackbar.*LENGTH\_LONG*)  
 .setAction("Undo", new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 carList.add(position, car);  
 adapter.notifyItemInserted(position);  
 car = null;  
 }  
 })  
 .show();  
 }  
 })  
 .create();  
 dialog.show();  
 }  
 });  
 rcMain.setAdapter(adapter);  
  
 }  
  
 private void generateData() {  
 carList = new ArrayList<>();  
 carList.add(new Car(R.drawable.*ford*, "Ford"));  
 carList.add(new Car(R.drawable.*mustang*, "Mustang"));  
 carList.add(new Car(R.drawable.*mercedes*, "Mercedes"));  
 carList.add(new Car(R.drawable.*ford*, "Civic"));  
 carList.add(new Car(R.drawable.*mustang*, "Mehran"));  
 carList.add(new Car(R.drawable.*mercedes*, "Fortuner"));  
 carList.add(new Car(R.drawable.*ford*, "Elantra"));  
 carList.add(new Car(R.drawable.*mercedes*, "Corolla"));  
 carList.add(new Car(R.drawable.*mustang*, "Porsche"));  
 carList.add(new Car(R.drawable.*mercedes*, "Buggati"));  
 }  
  
  
}

**Car Adapter**

package com.example.recyclerview;  
  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.ImageView;  
import android.widget.TextView;  
  
import androidx.annotation.NonNull;  
import androidx.recyclerview.widget.RecyclerView;  
  
import java.util.List;  
  
public class CarAdapter extends RecyclerView.Adapter<RecyclerView.ViewHolder> {  
 List<Car> carList;  
 static OnItemLongClickListener *onItemLongClickListener*;  
  
 public void setOnItemLongClickListener(OnItemLongClickListener l) {  
 *onItemLongClickListener* = l;  
 }  
  
 public CarAdapter(List<Car> carList) {  
 this.carList = carList;  
 }  
  
 @NonNull  
 @Override  
 public RecyclerView.ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {  
 if (viewType == 0) {  
 View rootView = LayoutInflater.*from*(parent.getContext())  
 .inflate(R.layout.*rc\_row*, null);  
 return new CarViewHolder(rootView);  
 } else {  
 View rootView = LayoutInflater.*from*(parent.getContext())  
 .inflate(R.layout.*rc\_row\_reverse*, null);  
 return new CarViewHolderR(rootView);  
 }  
 }  
  
 @Override  
 public int getItemViewType(int position) {  
 return position % 2;  
 }  
  
 @Override  
 public void onBindViewHolder(@NonNull RecyclerView.ViewHolder holder, int position) {  
 Car car = carList.get(position);  
 if (holder instanceof CarViewHolder) {  
 CarViewHolder holder1 = (CarViewHolder) holder;  
 holder1.ivCarImage.setImageResource(car.getCarImageResId());  
 holder1.tvCarName.setText(car.getCarName());  
 } else {  
 CarViewHolderR holderR = (CarViewHolderR) holder;  
 holderR.ivImage.setImageResource(car.getCarImageResId());  
 }  
 }  
  
 @Override  
 public int getItemCount() {  
 return carList.size();  
 }  
 public interface OnItemLongClickListener {  
 void onItemLongClick(int position);  
 }  
  
 public static class CarViewHolder extends RecyclerView.ViewHolder {  
 private ImageView ivCarImage;  
 private TextView tvCarName;  
  
 public CarViewHolder(@NonNull View rootView) {  
 super(rootView);  
  
 ivCarImage = rootView.findViewById(R.id.*iv\_image*);  
 tvCarName = rootView.findViewById(R.id.*textView*);  
  
 rootView.setOnLongClickListener(new View.OnLongClickListener() {  
 @Override  
 public boolean onLongClick(View v) {  
 *onItemLongClickListener*.onItemLongClick(getAdapterPosition());  
 return true;  
 }  
 });  
  
  
 }  
 }  
 public static class CarViewHolderR extends RecyclerView.ViewHolder {  
 ImageView ivImage;  
 public CarViewHolderR(@NonNull View itemView) {  
 super(itemView);  
  
 ivImage = itemView.findViewById(R.id.*iv\_image*);  
 }  
 }  
}

**Car(Model Class)**

package com.example.recyclerview;  
  
public class Car {  
 private int carImageResId;  
 private String carName;  
  
 public Car(int carImageResId, String carName) {  
 this.carImageResId = carImageResId;  
 this.carName = carName;  
 }  
  
  
  
  
  
 public int getCarImageResId() {  
  
 return carImageResId;  
 }  
  
 public String getCarName() {  
  
 return carName;  
 }  
}

**Activity Main**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main\_root"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/rc\_main"  
 android:layout\_width="0dp"  
 android:layout\_height="0dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**RC\_Row**

*<?*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="wrap\_content"  
 android:background="@color/teal\_200"  
 android:padding="16dp">  
  
  
 <ImageView  
 android:id="@+id/iv\_image"  
 android:layout\_width="150dp"  
 android:layout\_height="150dp"  
 android:scaleType="centerCrop"  
 android:src="@drawable/ford"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/guideline2"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World"  
 android:textAlignment="viewEnd"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="@+id/guideline2"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <androidx.constraintlayout.widget.Guideline  
 android:id="@+id/guideline2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 app:layout\_constraintGuide\_percent="0.40389293" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**RC\_Row\_Reverse**

*<?*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="wrap\_content"  
 android:background="@color/teal\_200"  
 android:padding="16dp">  
  
  
 <ImageView  
 android:id="@+id/iv\_image"  
 android:layout\_width="150dp"  
 android:layout\_height="150dp"  
 android:scaleType="centerCrop"  
 android:src="@drawable/ford"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="@+id/guideline2"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <androidx.constraintlayout.widget.Guideline  
 android:id="@+id/guideline2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 app:layout\_constraintGuide\_percent="0.6" />  
</androidx.constraintlayout.widget.ConstraintLayout>