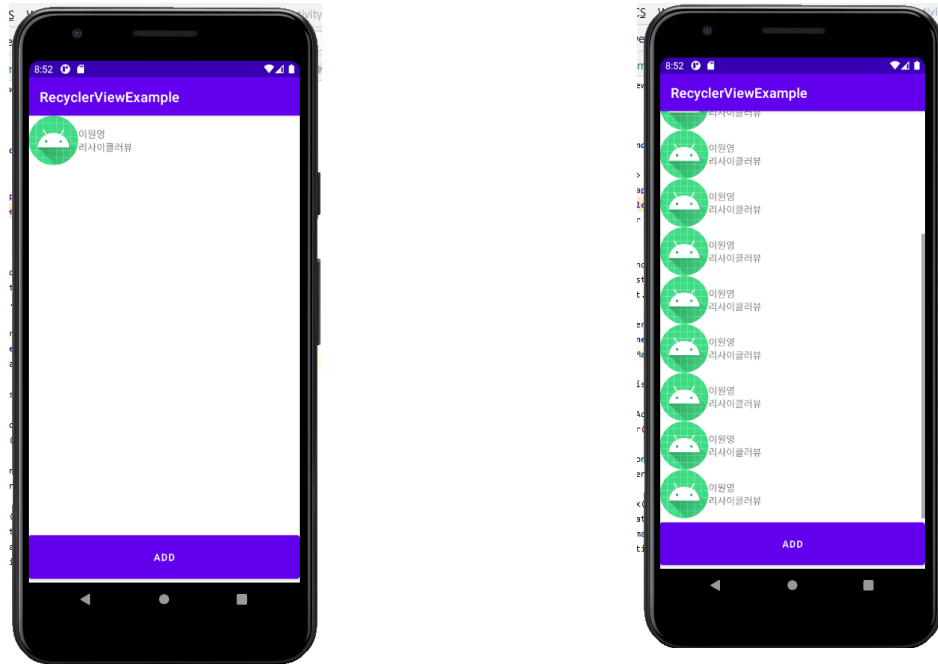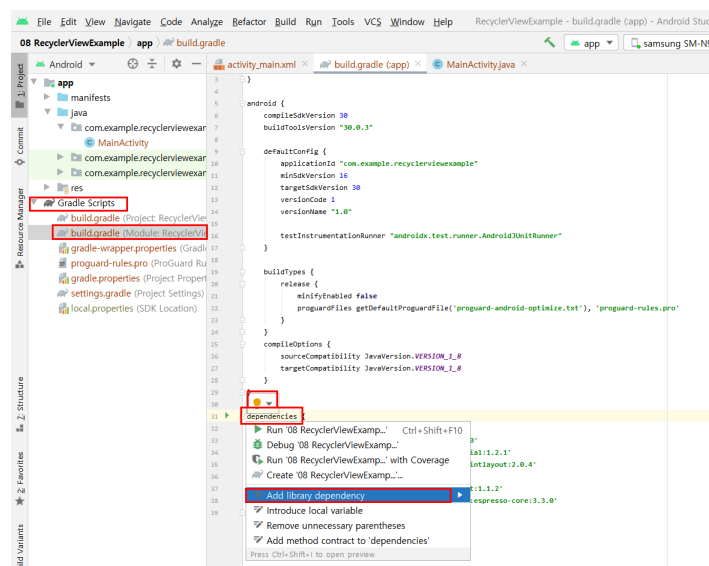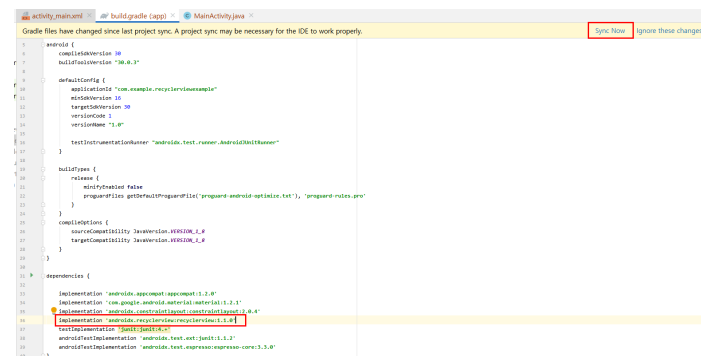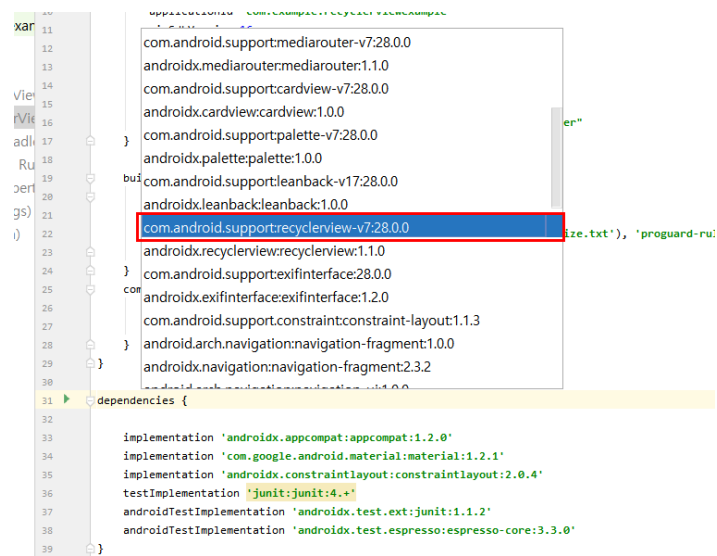# 08 RecyclerView

결과

add 버튼을 누르면 리사이클러뷰가 하나 생기고 리사이클러뷰를 길게 누르면 해당 리사이클러뷰가 삭제된다. 화면 이상의 리사이클러뷰가 생성되면 스크롤로 볼 수 있다.

1. buid.gradle(app)에서 RecyclerView 추가 및 다운로드

2. activity_main.xml 코드

```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:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/rv"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:scrollbarFadeDuration="0"
        android:scrollbarSize="5dp"
        android:scrollbarThumbVertical="@android:color/darker_gray"
        android:scrollbars="vertical"
        android:layout_weight="1">

    </androidx.recyclerview.widget.RecyclerView>
```
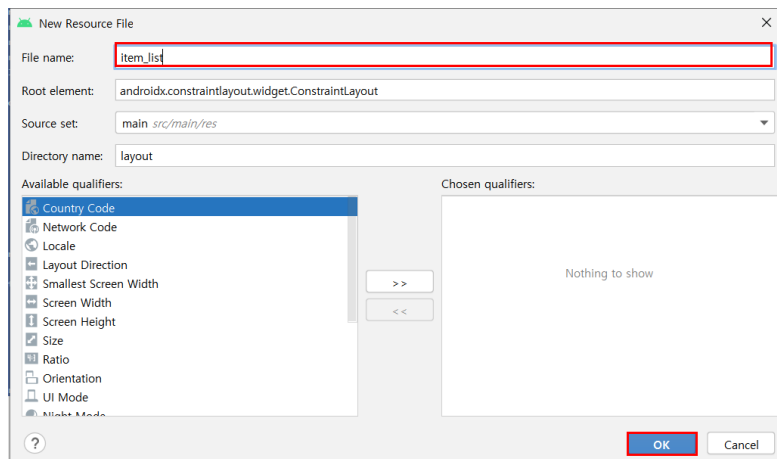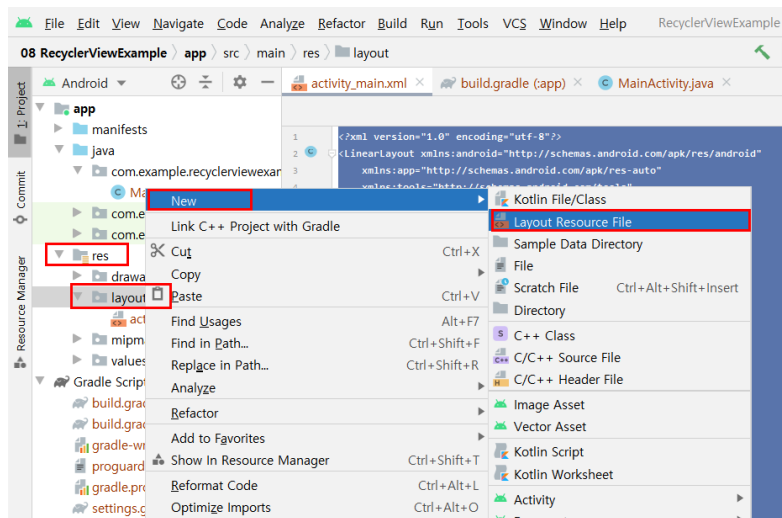
```
    <Button
        android:id="@+id/btn_add"
        android:layout_weight="8"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="add"/>

</LinearLayout>
```

3. item_list.xml 추가 및 코드


```
<?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">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```xml
            android:orientation="horizontal">

        <ImageView
            android:id="@+id/iv_profile"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:src="@mipmap/ic_launcher"/>

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:gravity="center_vertical"
            android:orientation="vertical">

            <TextView
                android:id="@+id/tv_name"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="이원영"/>

            <TextView
                android:id="@+id/tv_content"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="리사이클러뷰"/>

        </LinearLayout>

    </LinearLayout>

</LinearLayout>
```
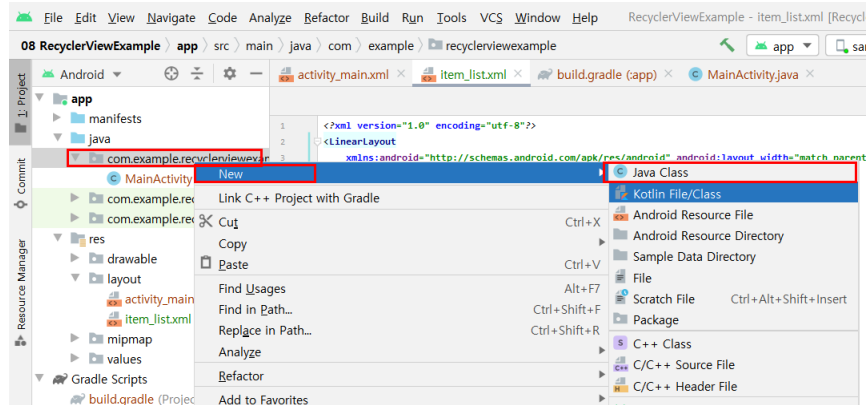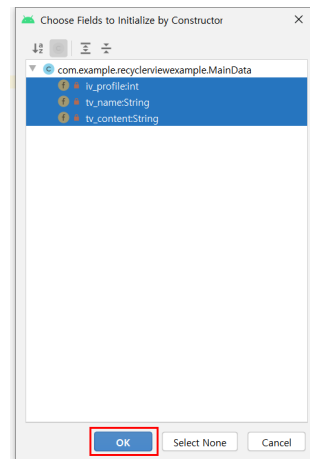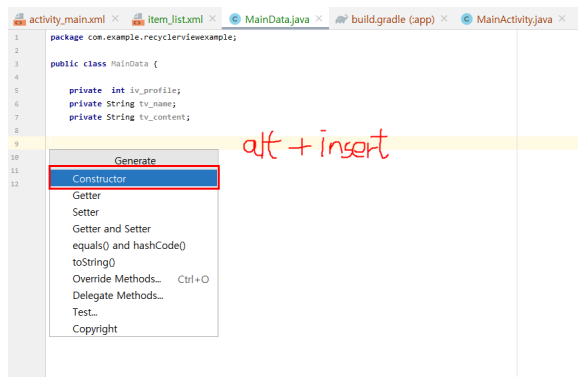
4. MainData.java 추가 및 코드

alt + insert로 constructor, getter, setter 자동완성 가능

```java
package com.example.recyclerviewexample;

public class MainData {

    private  int iv_profile;
    private String tv_name;
    private String tv_content;

    public MainData(int iv_profile, String tv_name, String tv_content) {
        this.iv_profile = iv_profile;
        this.tv_name = tv_name;
        this.tv_content = tv_content;
    }

    public int getIv_profile() {
        return iv_profile;
    }

    public void setIv_profile(int iv_profile) {
        this.iv_profile = iv_profile;
    }

    public String getTv_name() {
        return tv_name;
    }

    public void setTv_name(String tv_name) {
        this.tv_name = tv_name;
    }

    public String getTv_content() {
        return tv_content;
    }

    public void setTv_content(String tv_content) {
        this.tv_content = tv_content;
    }
}
```
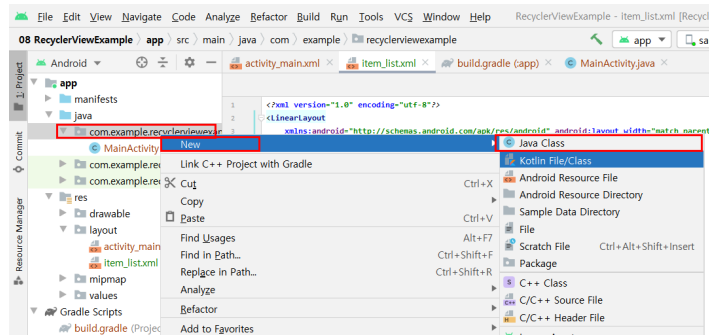
5. MainAdapter.java 추가 및 코드

```java
package com.example.recyclerviewexample;

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.ArrayList;

public class MainAdapter extends RecyclerView.Adapter<MainAdapter.CustomViewHolder> {

    private ArrayList<MainData> arrayList;

    public MainAdapter(ArrayList<MainData> arrayList) {
        this.arrayList = arrayList;
    }

    @NonNull
    @Override
    public MainAdapter.CustomViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {

        View view = LayoutInflater.from(parent.getContext()).inflate(R.layout.item_list, parent, false);
        CustomViewHolder holder = new CustomViewHolder(view);

        return holder;
    }

    @Override
    public void onBindViewHolder(@NonNull MainAdapter.CustomViewHolder holder, int position) {

        holder.iv_profile.setImageResource(arrayList.get(position).getIv_profile());
        holder.tv_name.setText(arrayList.get(position).getTv_name());
        holder.tv_content.setText(arrayList.get(position).getTv_content());

        holder.itemView.setTag(position);
        holder.itemView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String curName = holder.tv_name.getText().toString();
                Toast.makeText(v.getContext(), curName, Toast.LENGTH_SHORT).show();
            }
        });

        holder.itemView.setOnLongClickListener(new View.OnLongClickListener() {
            @Override
            public boolean onLongClick(View v) {
                remove(holder.getAdapterPosition());
                return true;
            }
        });
```

```
        }

        @Override
        public int getItemCount() {
            return (null != arrayList ? arrayList.size() : 0);
        }

        public void remove(int position) {
            try {
                arrayList.remove(position);
                notifyItemRemoved(position);
            } catch (IndexOutOfBoundsException ex) {
                ex.printStackTrace();
            }
        }

        public class CustomViewHolder extends RecyclerView.ViewHolder {

            protected ImageView iv_profile;
            protected TextView tv_name;
            protected TextView tv_content;

            public CustomViewHolder(@NonNull View itemView) {
                super(itemView);
                this.iv_profile = (ImageView) itemView.findViewById(R.id.iv_profile);
                this.tv_name = (TextView) itemView.findViewById(R.id.tv_name);
                this.tv_content = (TextView) itemView.findViewById(R.id.tv_content);
            }
        }
    }
}
```

6. MainActivity.java 코드

```java
package com.example.recyclerviewexample;

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.Button;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    private ArrayList<MainData> arrayList;
    private MainAdapter mainAdapter;
    private RecyclerView recyclerView;
    private LinearLayoutManager linearLayoutManager;

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

        recyclerView = (RecyclerView)findViewById(R.id.rv);
        linearLayoutManager = new LinearLayoutManager(this);
        recyclerView.setLayoutManager((linearLayoutManager));

        arrayList = new ArrayList<>();

        mainAdapter = new MainAdapter(arrayList);
        recyclerView.setAdapter(mainAdapter);
```

```java
        Button btn_add = (Button)findViewById(R.id.btn_add);
        btn_add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                MainData mainData = new MainData(R.mipmap.ic_launcher, "이원영", "리사이클러뷰");
                arrayList.add(mainData);
                mainAdapter.notifyDataSetChanged();
            }
        });

    }
}
```