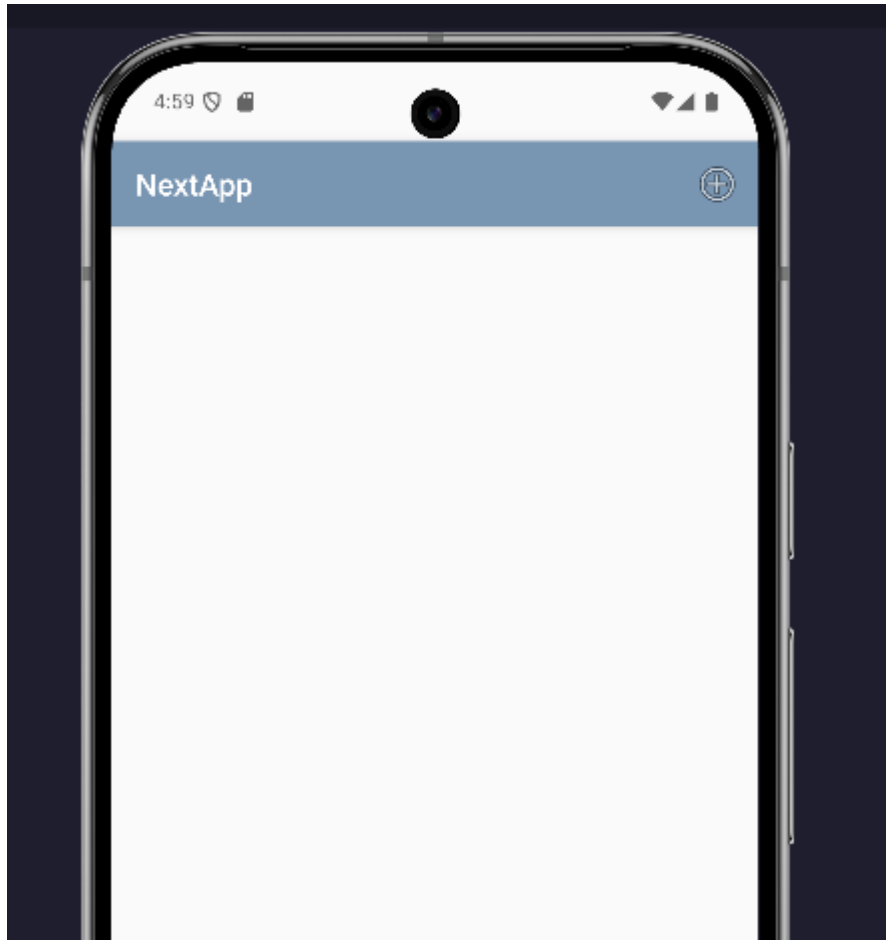
Todo-Tasks App

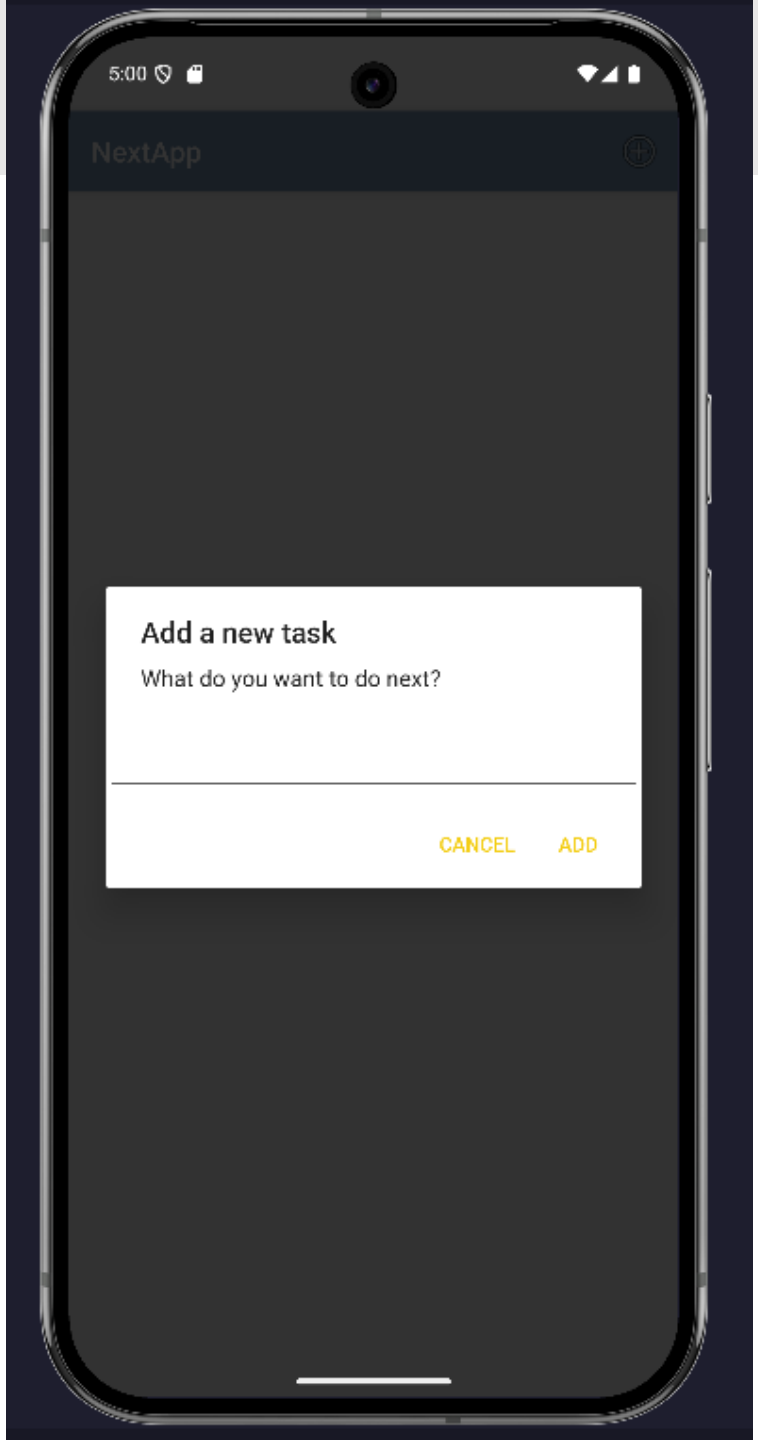
(With SQLiteDatabase)

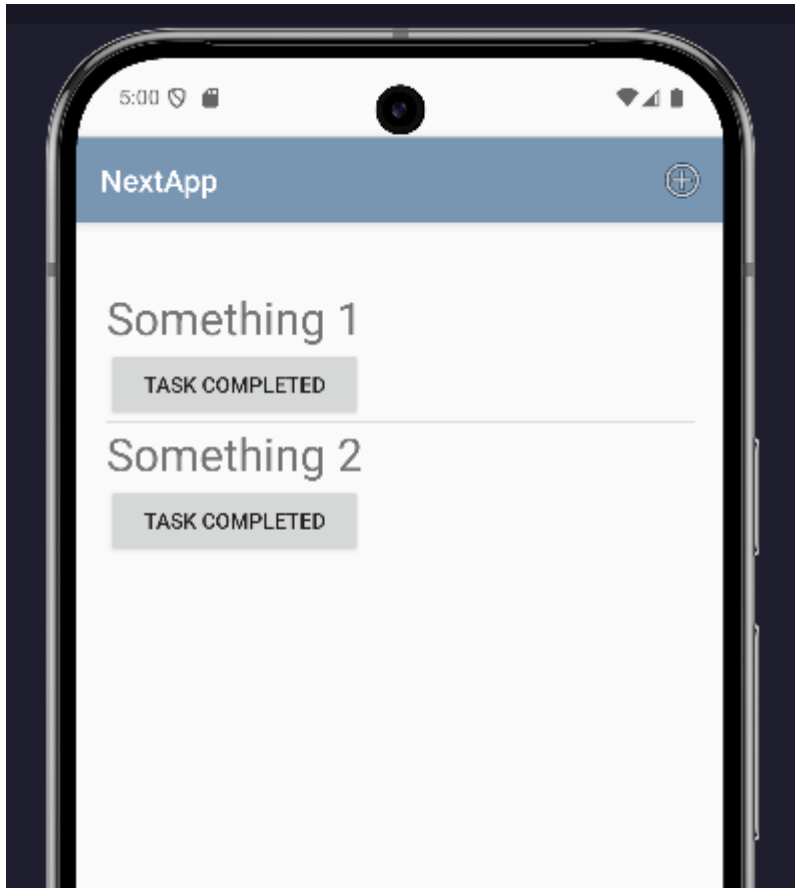
Objective

- Create a todo-tasks app that stores data into SQLiteDatabase.

Final Output:



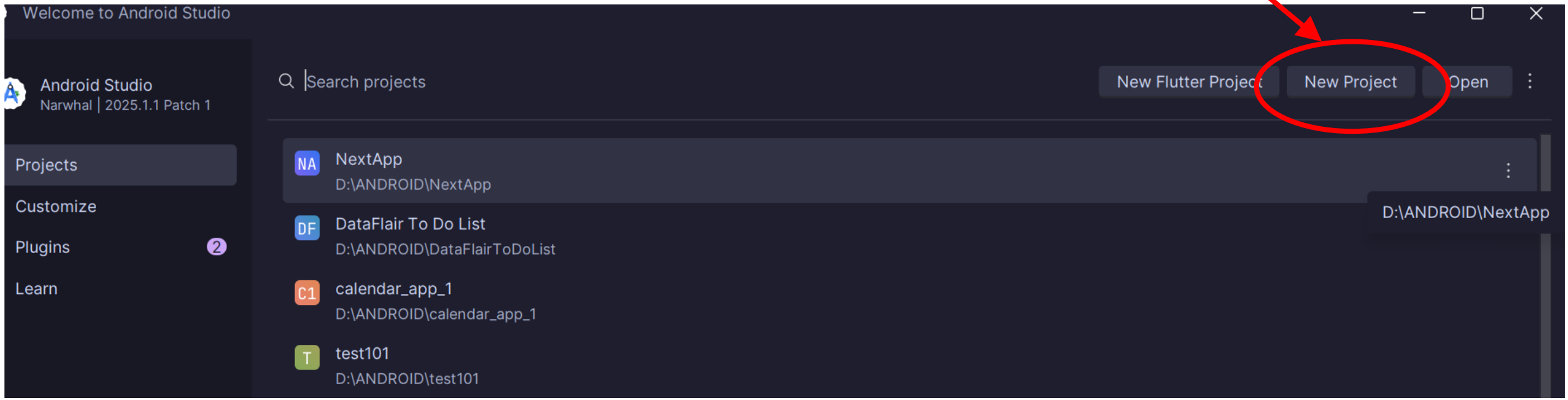




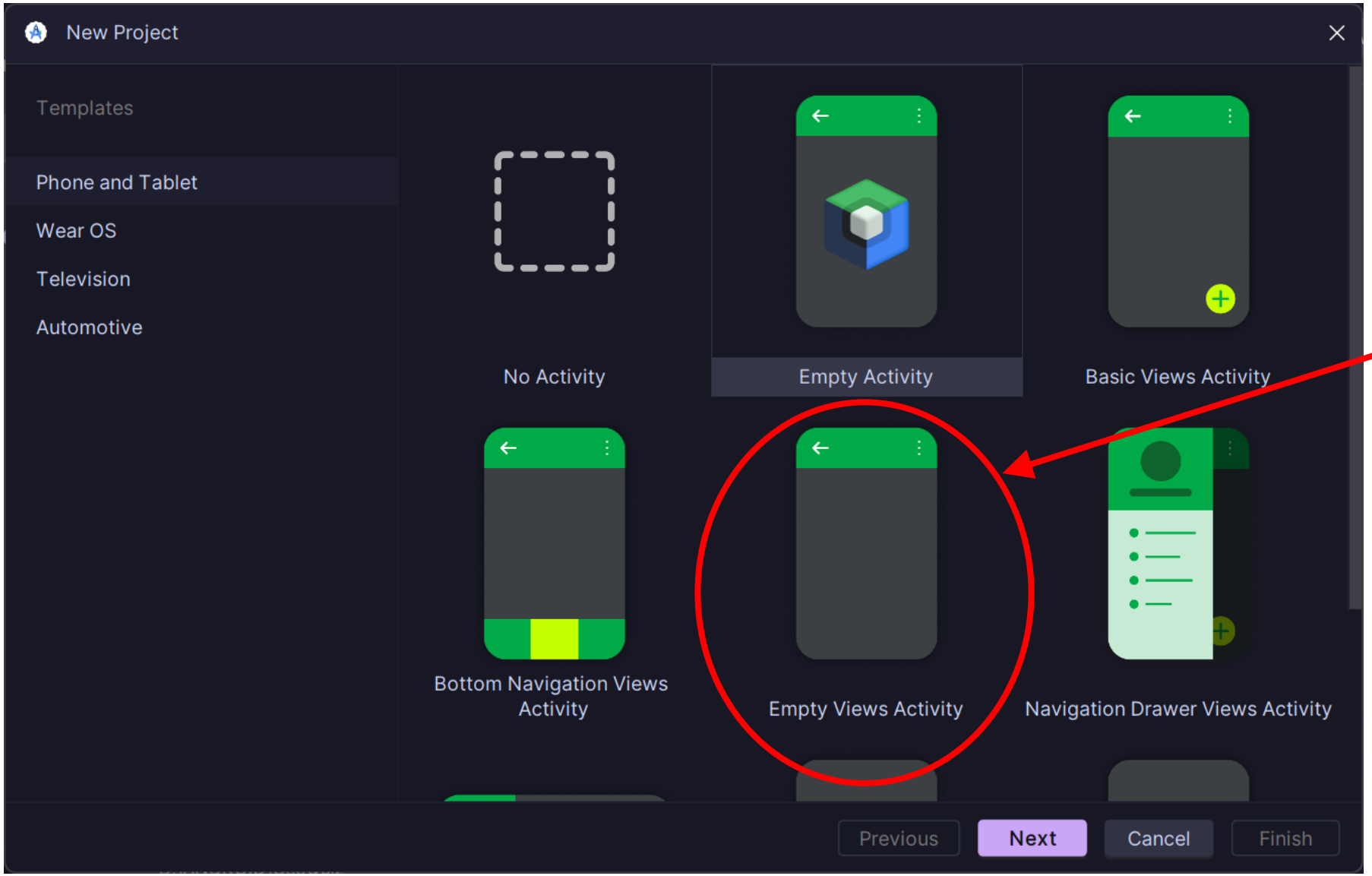
Section 1

Create a new project

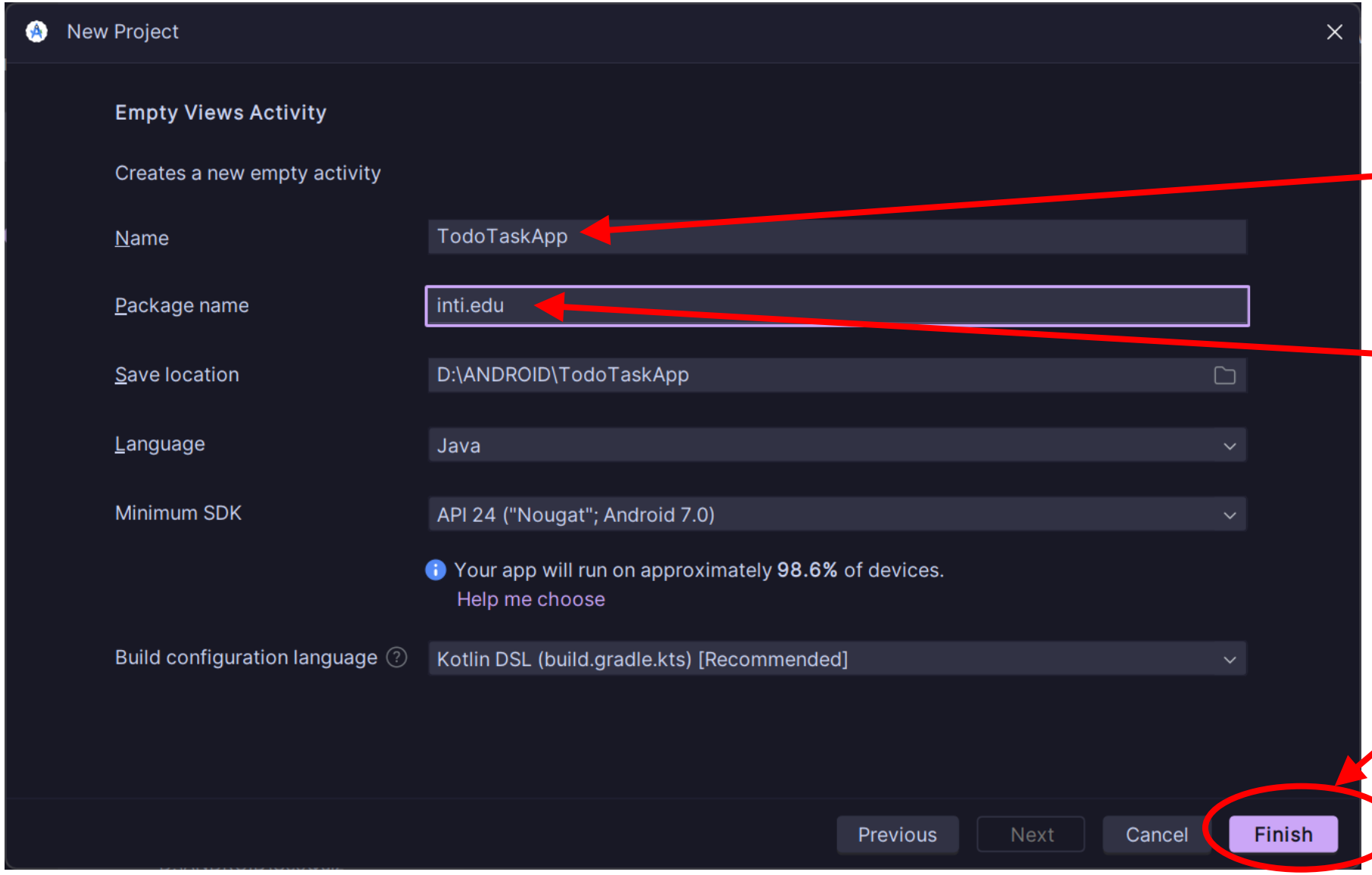
Select This



Select Empty Views Activity



Enter a Project Name

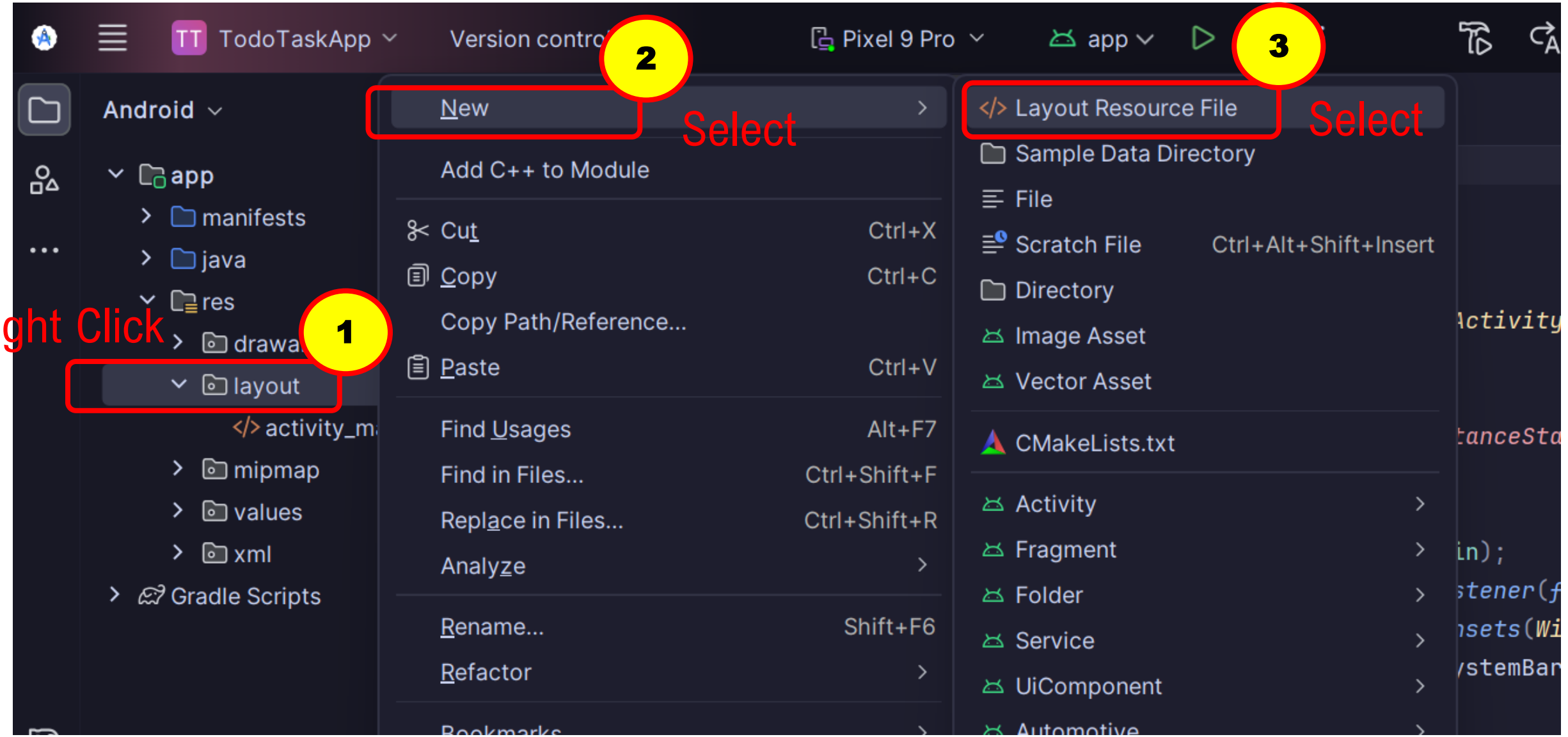


Enter a new Project Name

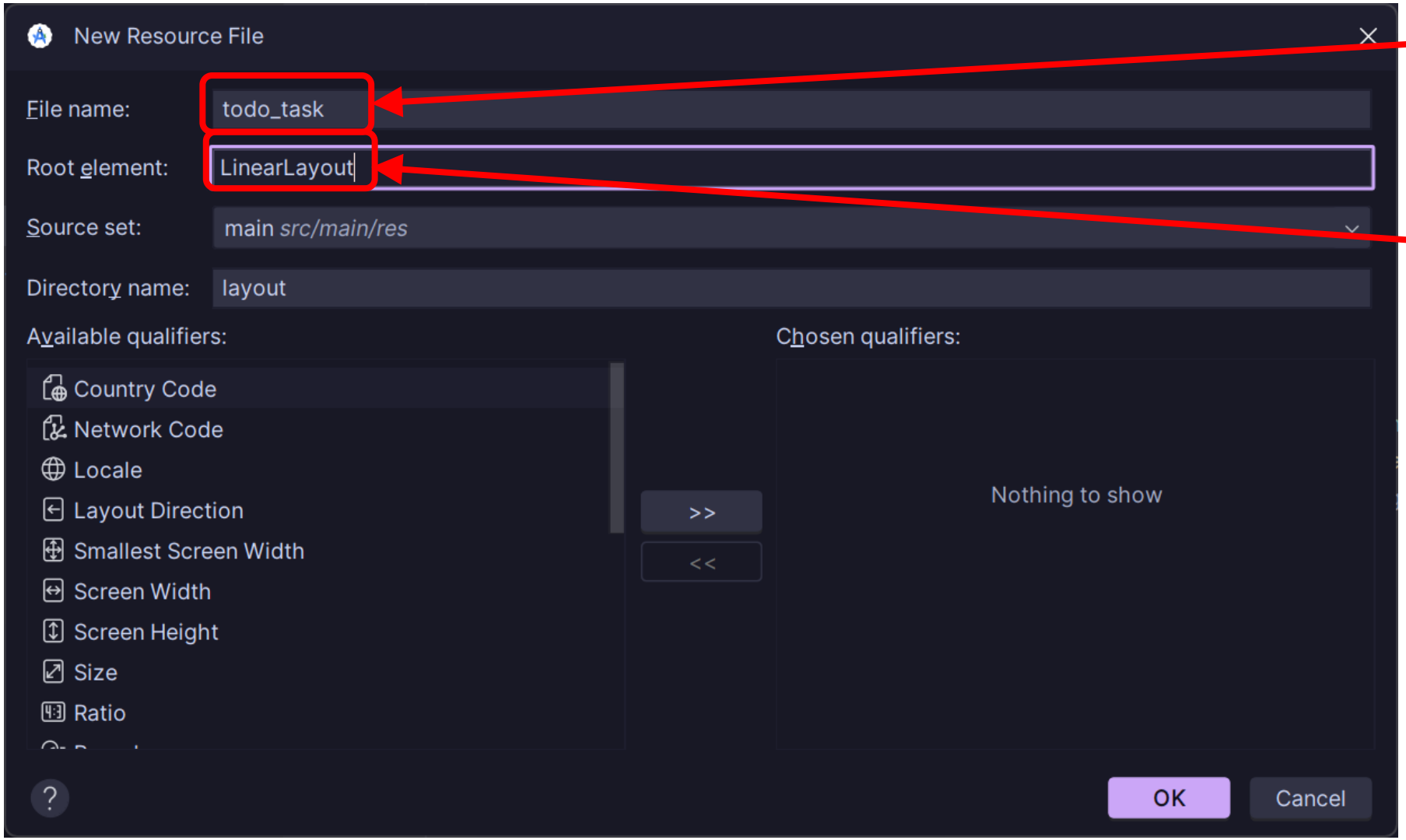
Enter a package name

Leave the rest as default and click “Finish”

Create a new Layout Resource File

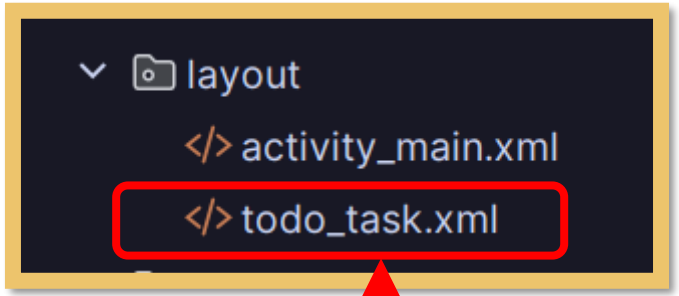


Enter “todo_task” as the file name and enter LinearLayout



File Name:
“todo_task”

Root Element:
“LinearLayout”



New layout File Created

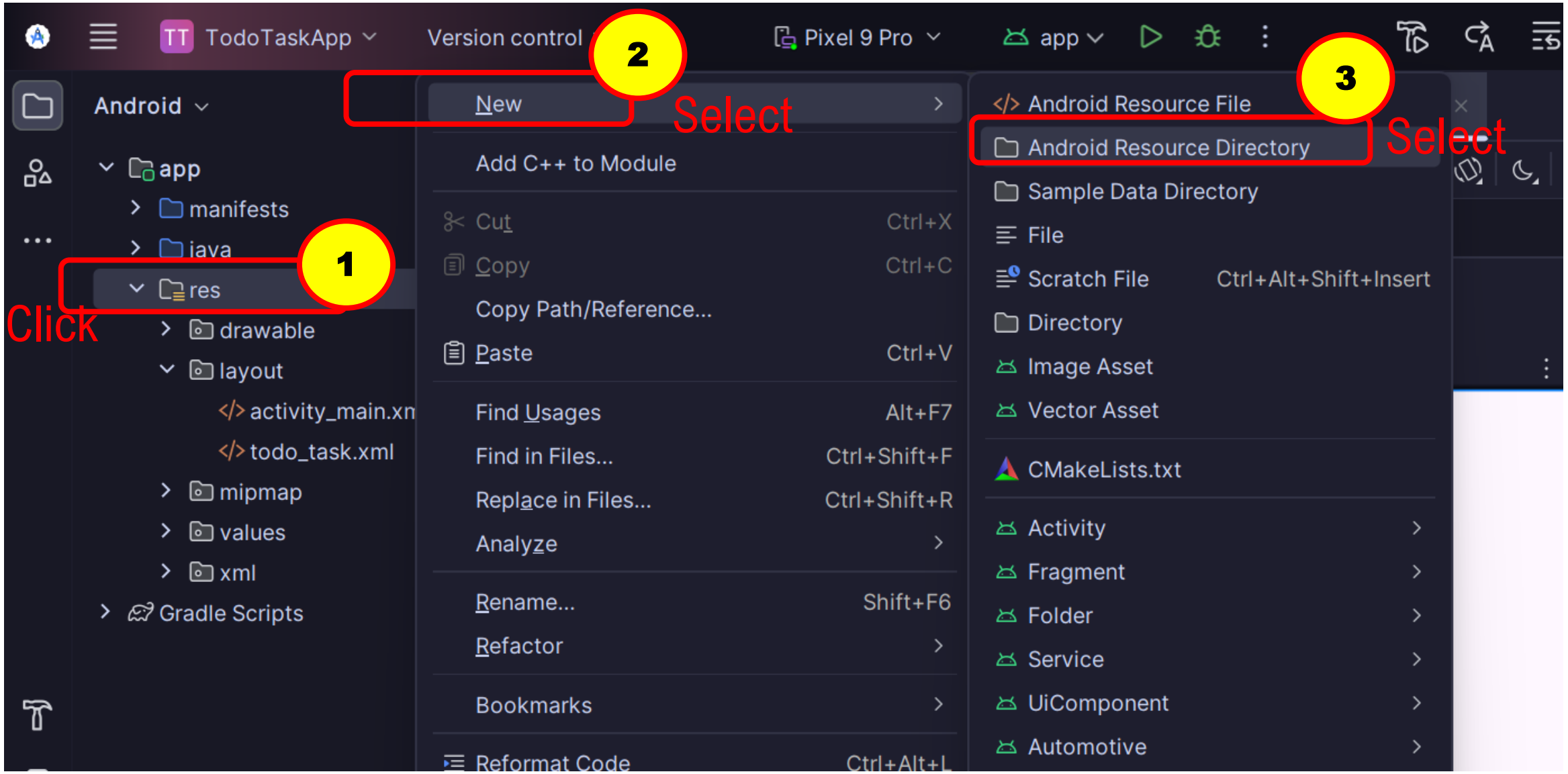
Update the todo_task.xml file as below:

todo_task.xml

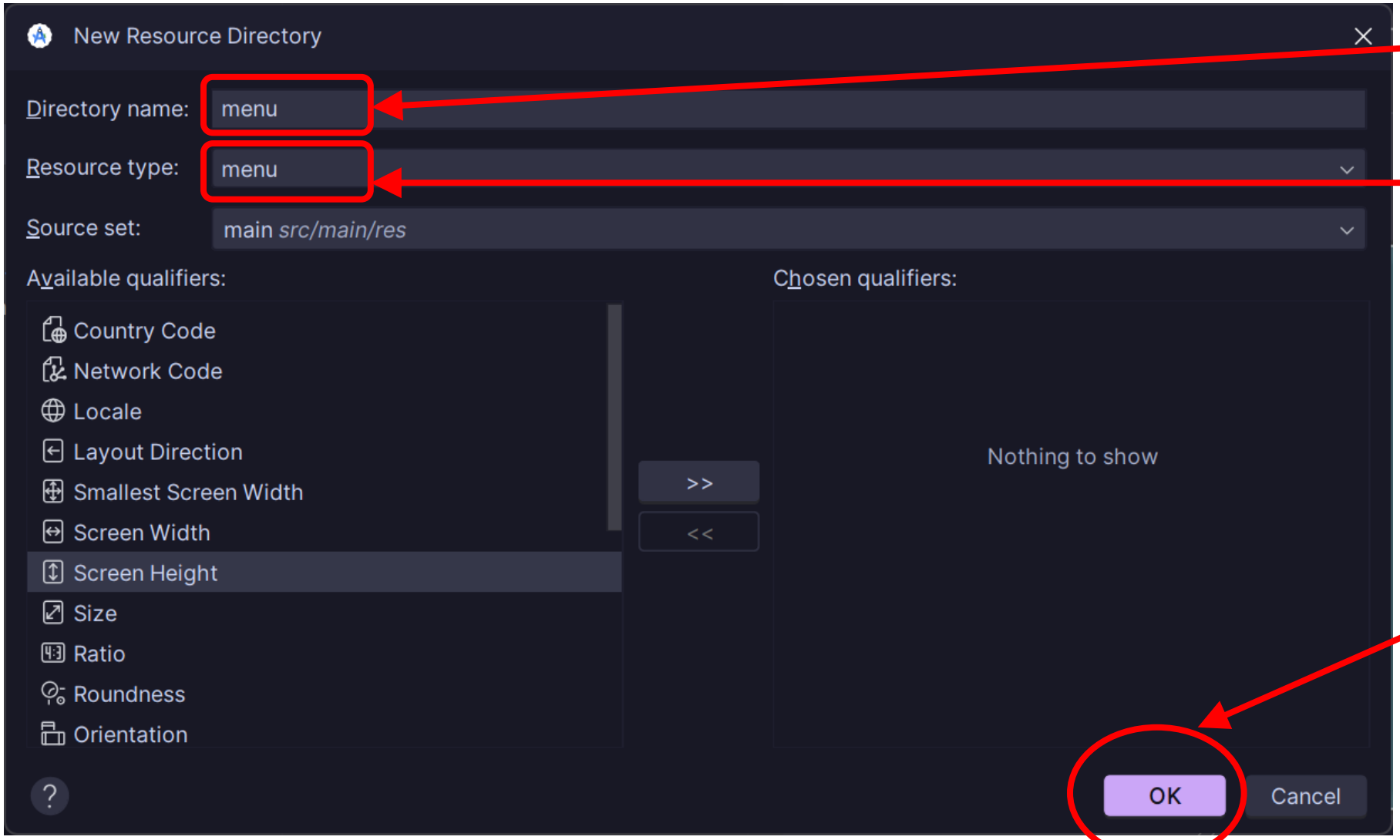
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    >

    <TextView
        android:id="@+id/title_task"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        />

    <Button
        android:id="@+id/task_delete"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Task Completed"
        android:onClick="deleteTask"/>

</LinearLayout>
```

Section 2

Create a new Android Resource Directory



Enter “menu” for the Directory name and select “menu” as the Resource Type

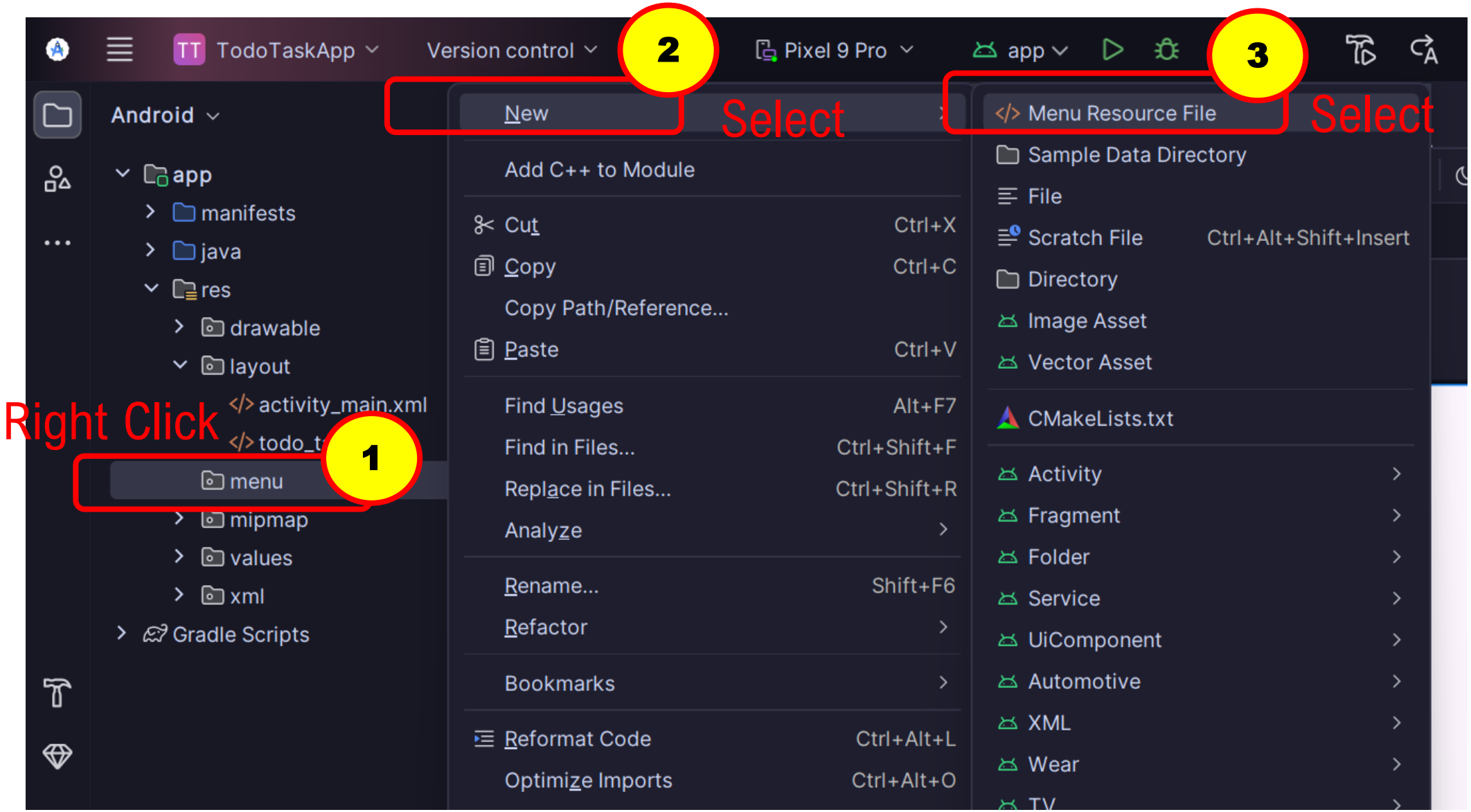


Directory Name: “menu”

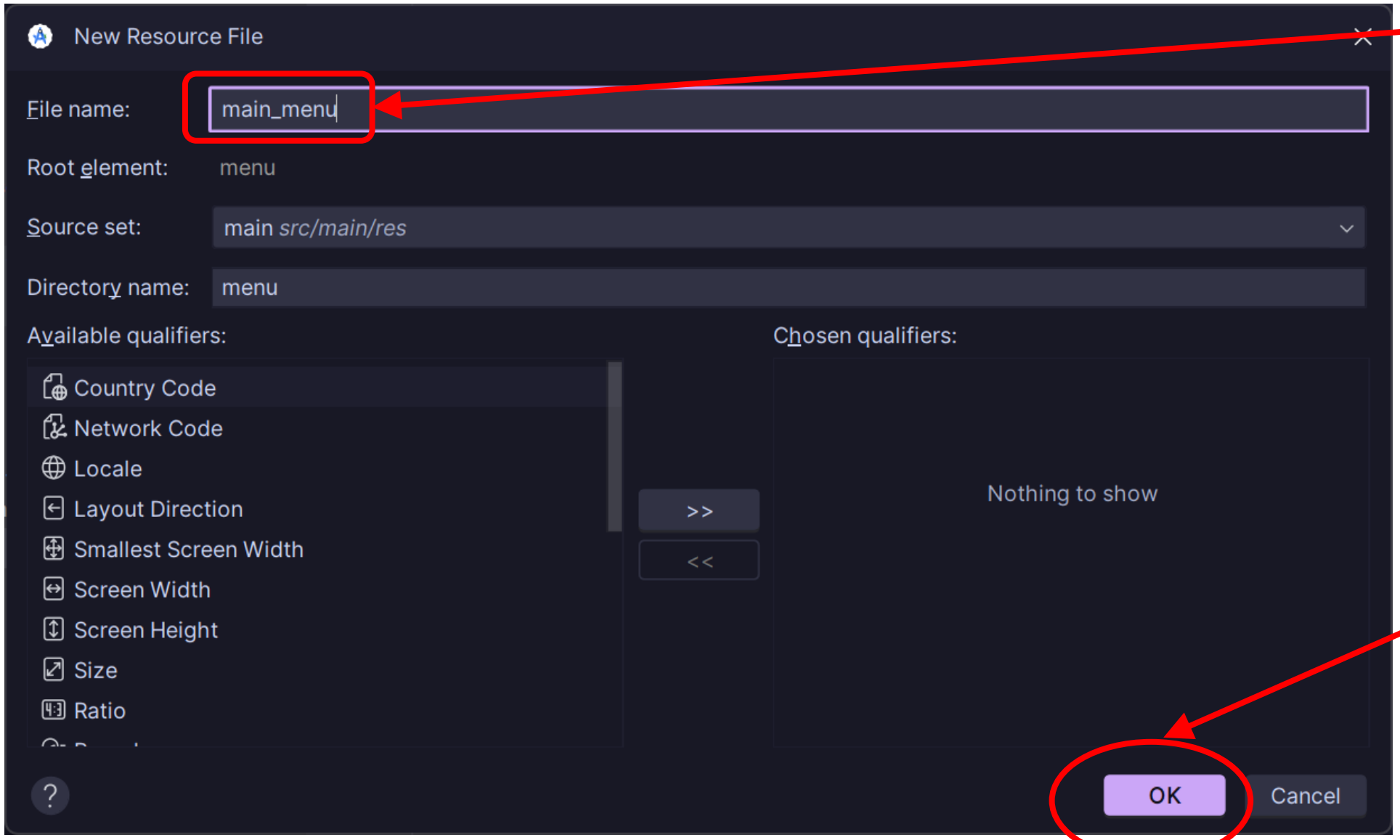
Resource Type: “menu”

Click “OK”

Create a new Menu Resource File



Enter “main_menu” as the file name.



File Name:
“main_menu”

Click “OK”

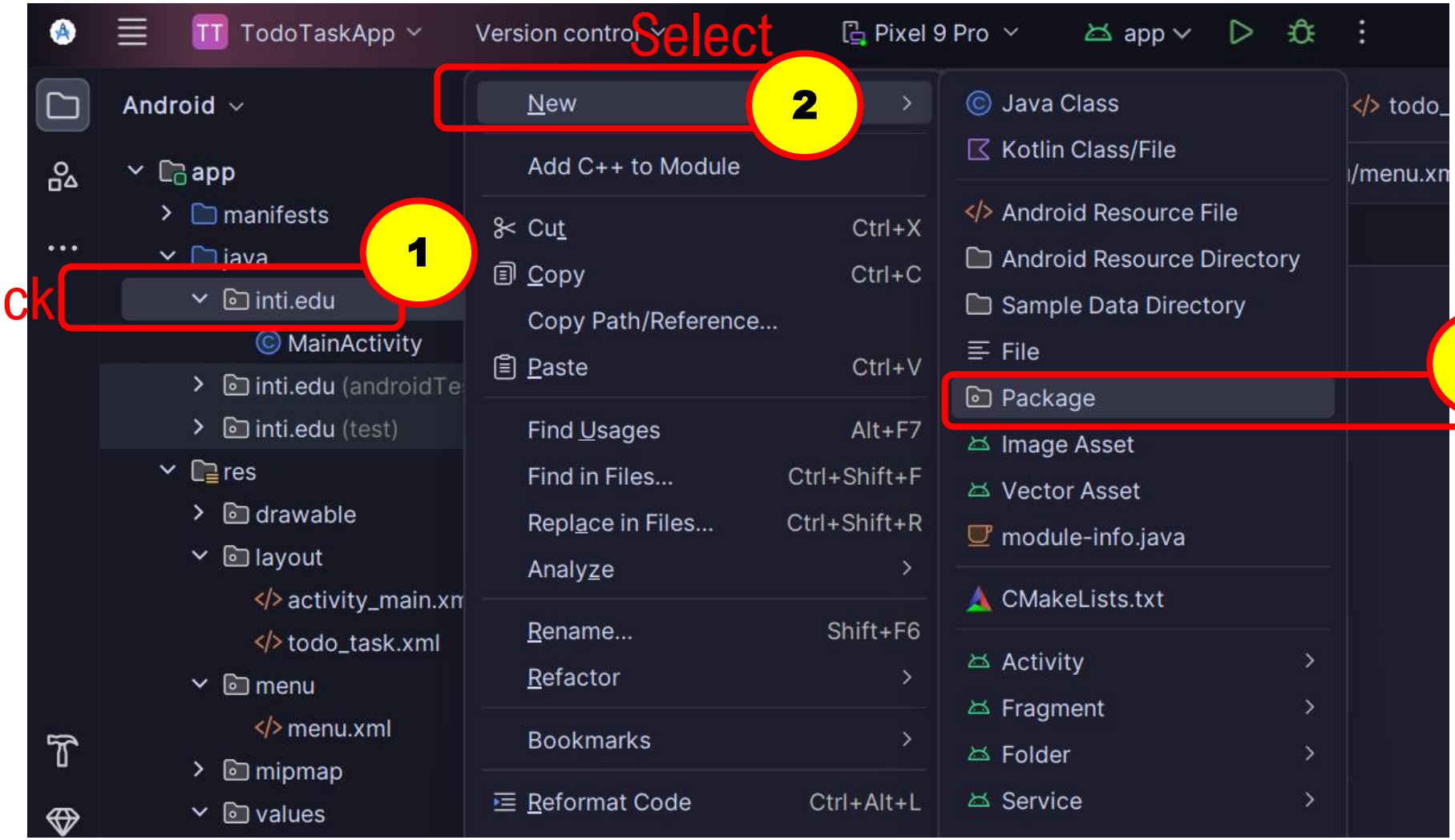
Update the main_menu.xml file as below:

main_menu.xml

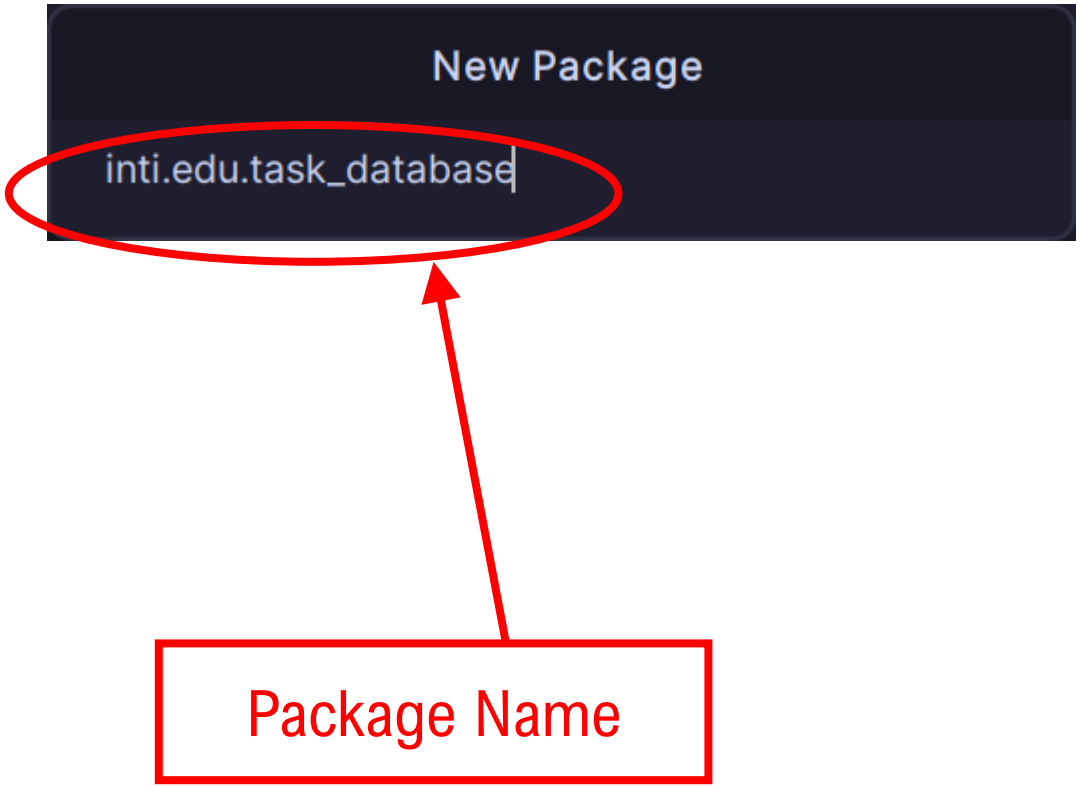
```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">

    <item
        android:id="@+id/action_add_task"
        android:icon="@android:drawable/ic_menu_add"
        android:title="Add Task"
        app:showAsAction="always"

        />
</menu>
```

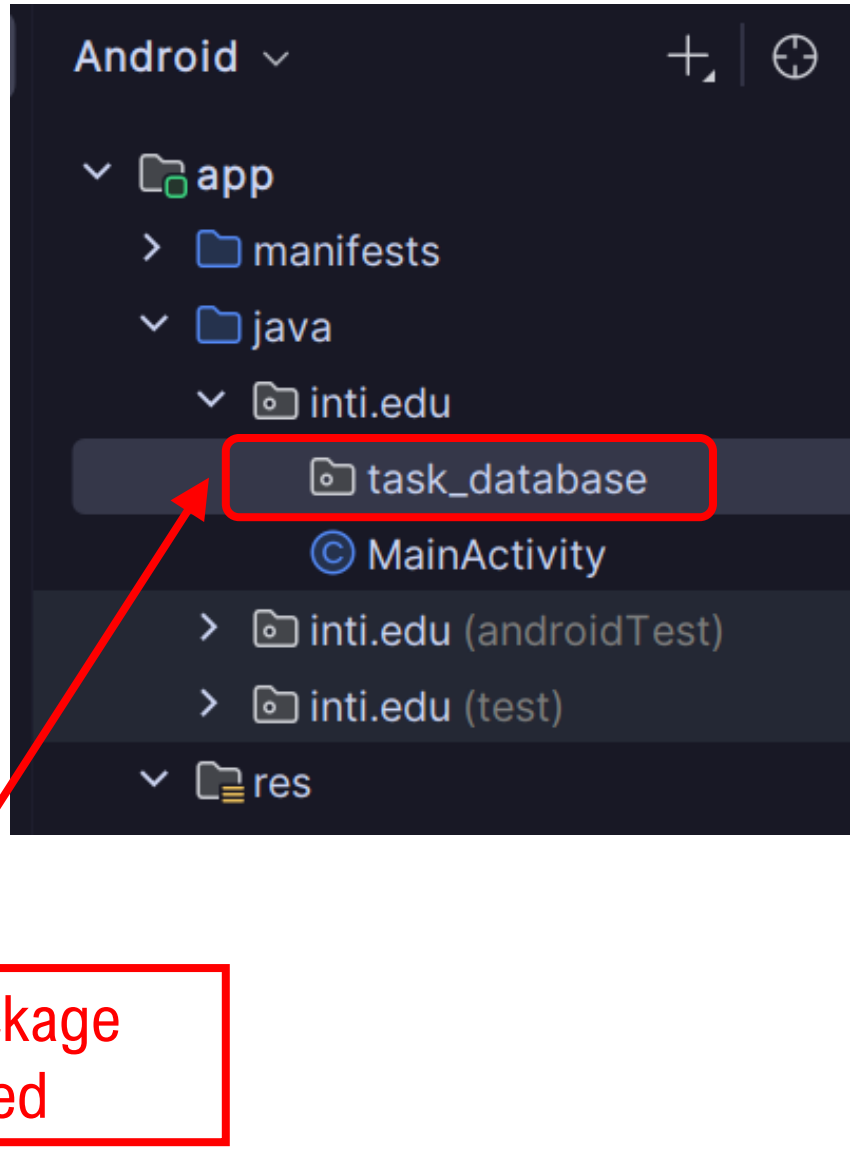
Section 3

Create a new Java Package under the inti.edu package.

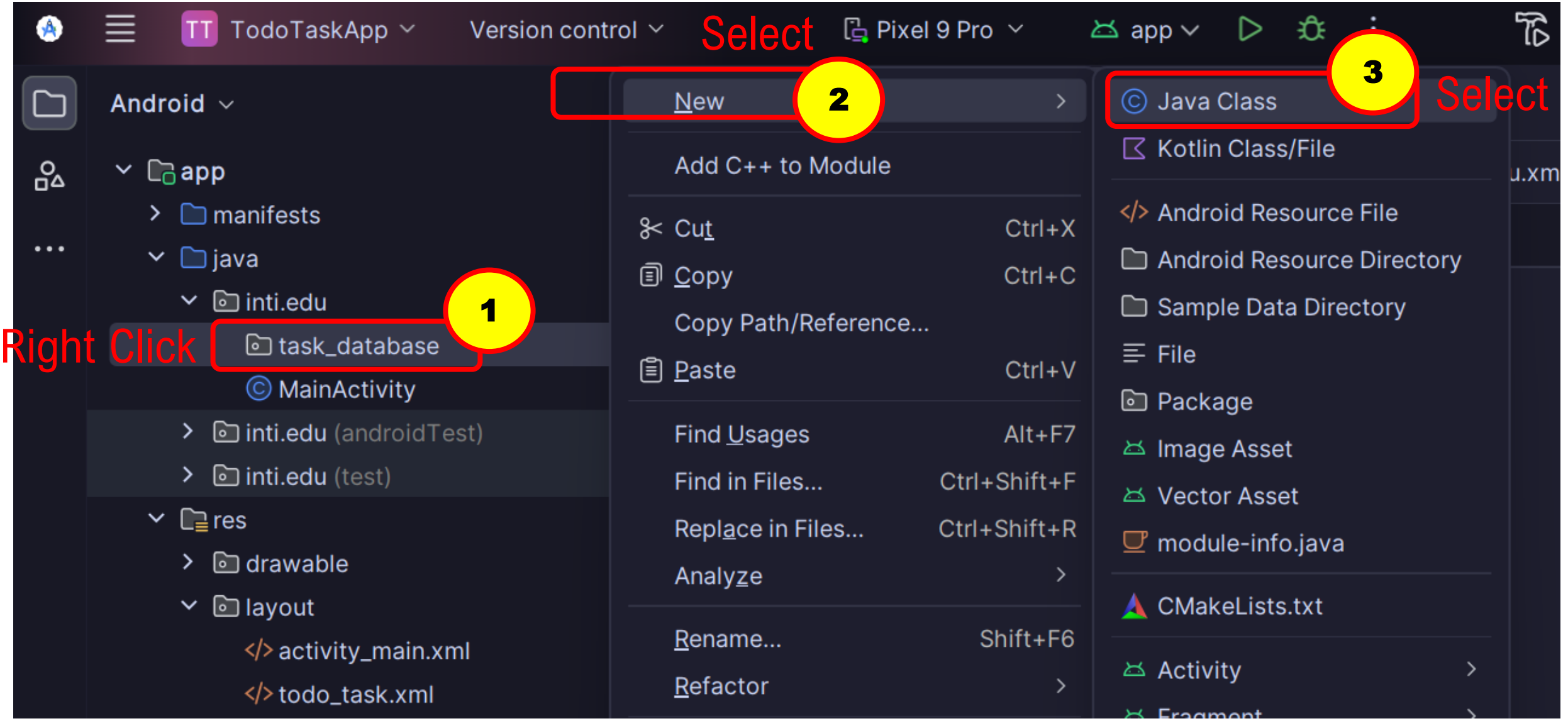


Enter “task_database” as the package name





Create a new Java Class



Name the new Java Class “TaskContract”

Class Name:
“TaskContract”

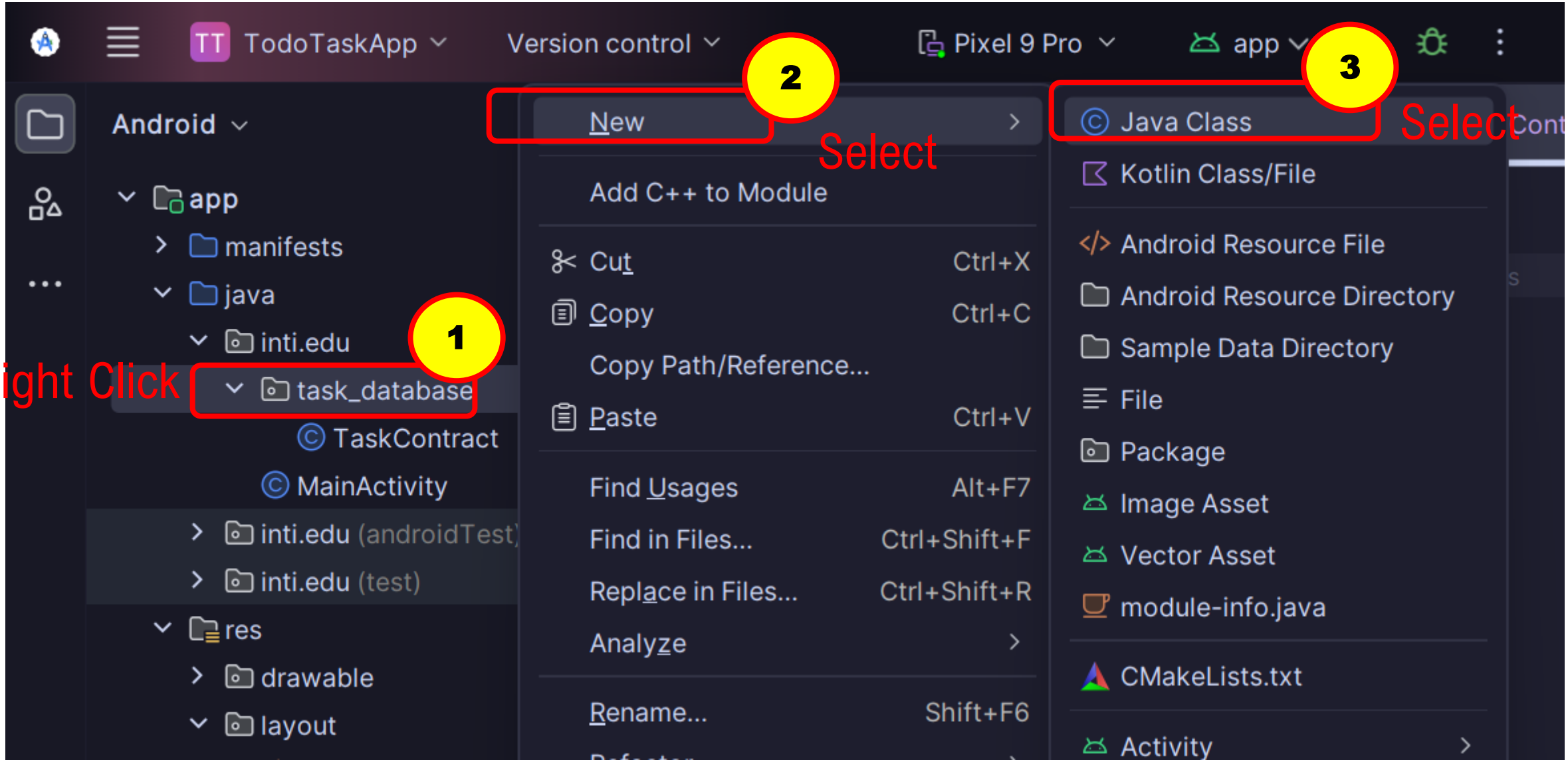
New Java Class
created

Enter the code below:

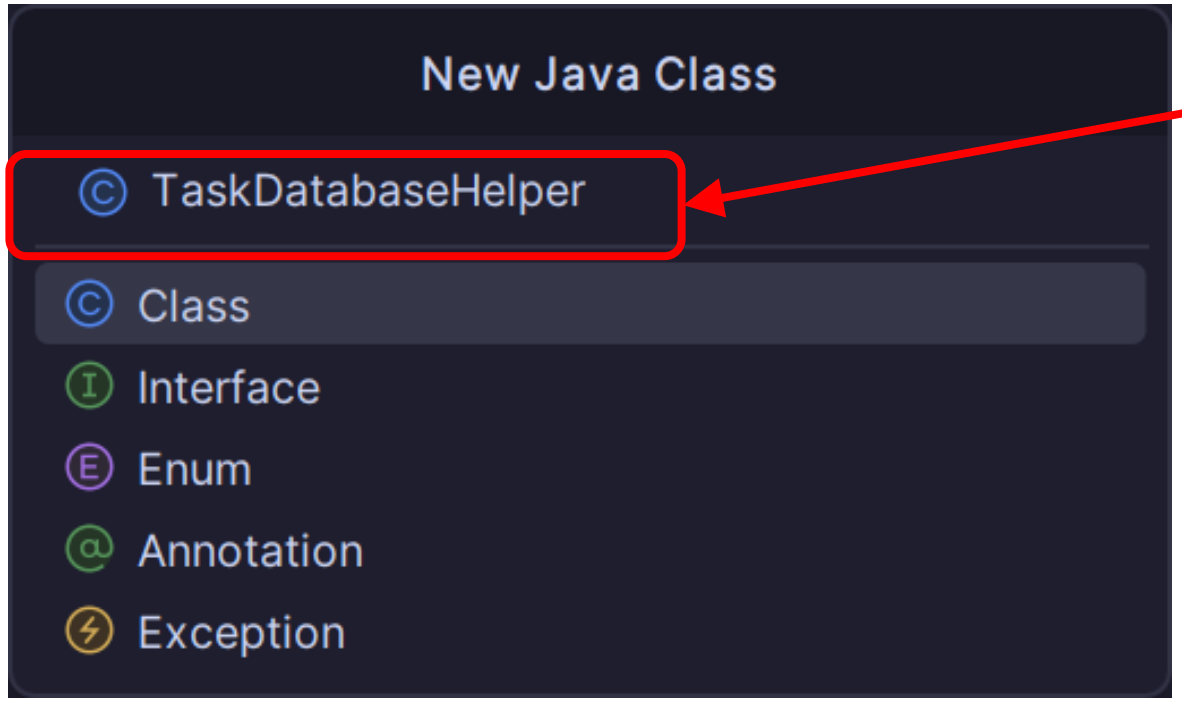
TaskContract.java

```java
package inti.edu.task_database;

import android.provider.BaseColumns;

public class TaskContract { 15 usages
    public static final String DB_NAME = "todolist.db"; 1 usage
    public static final int DB_VERSION = 1; 1 usage

    public class TaskEntry implements BaseColumns{ 12 usages
        public static final String TABLE = "tasks"; 5 usages
        public static final String COL_TASK_TITLE = "title"; 5 usages
    }
}

```

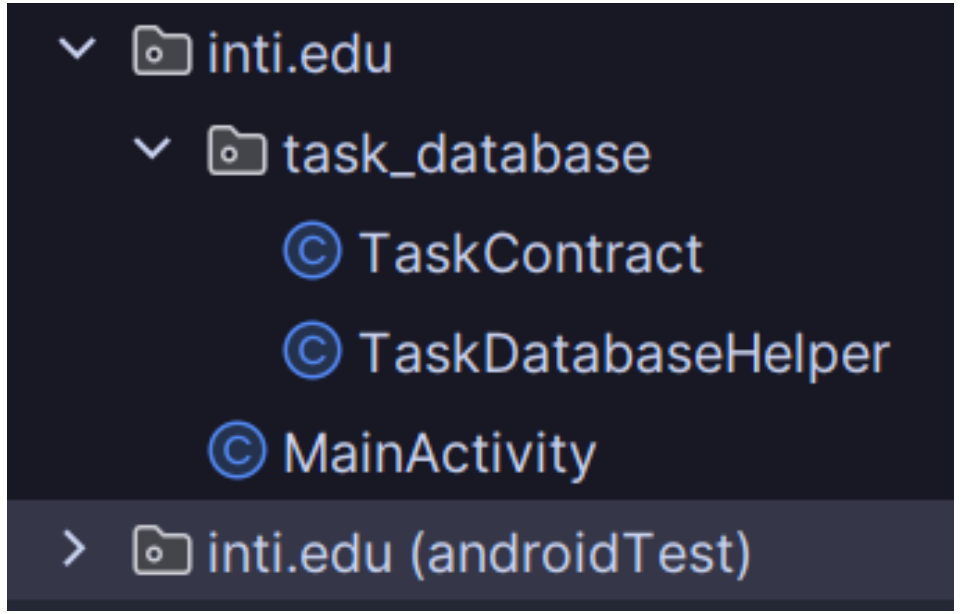
Create a new Java Class



Name the new Java Class “TaskDatabaseHelper”



Class Name:
“TaskDatabaseHelper”



New Java Class Created

Enter the code below:

TaskDatabaseHelper.java

```java
package inti.edu.task_database;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class TaskDatabaseHelper extends SQLiteOpenHelper{  3 usages
    public TaskDatabaseHelper(Context context){  1 usage
        super(context, TaskContract.DB_NAME, null, TaskContract.DB_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db){
        String createTable = "CREATE TABLE " + TaskContract.TaskEntry.TABLE + " ( " +
                             TaskContract.TaskEntry._ID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +
                             TaskContract.TaskEntry.COL_TASK_TITLE + " TEXT NOT NULL);";
        db.execSQL(createTable);
    }

    @Override  no usages
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion){
        db.execSQL("DROP TABLE IF EXISTS " + TaskContract.TaskEntry.TABLE);
        onCreate(db);
    }
}
```

Section 4

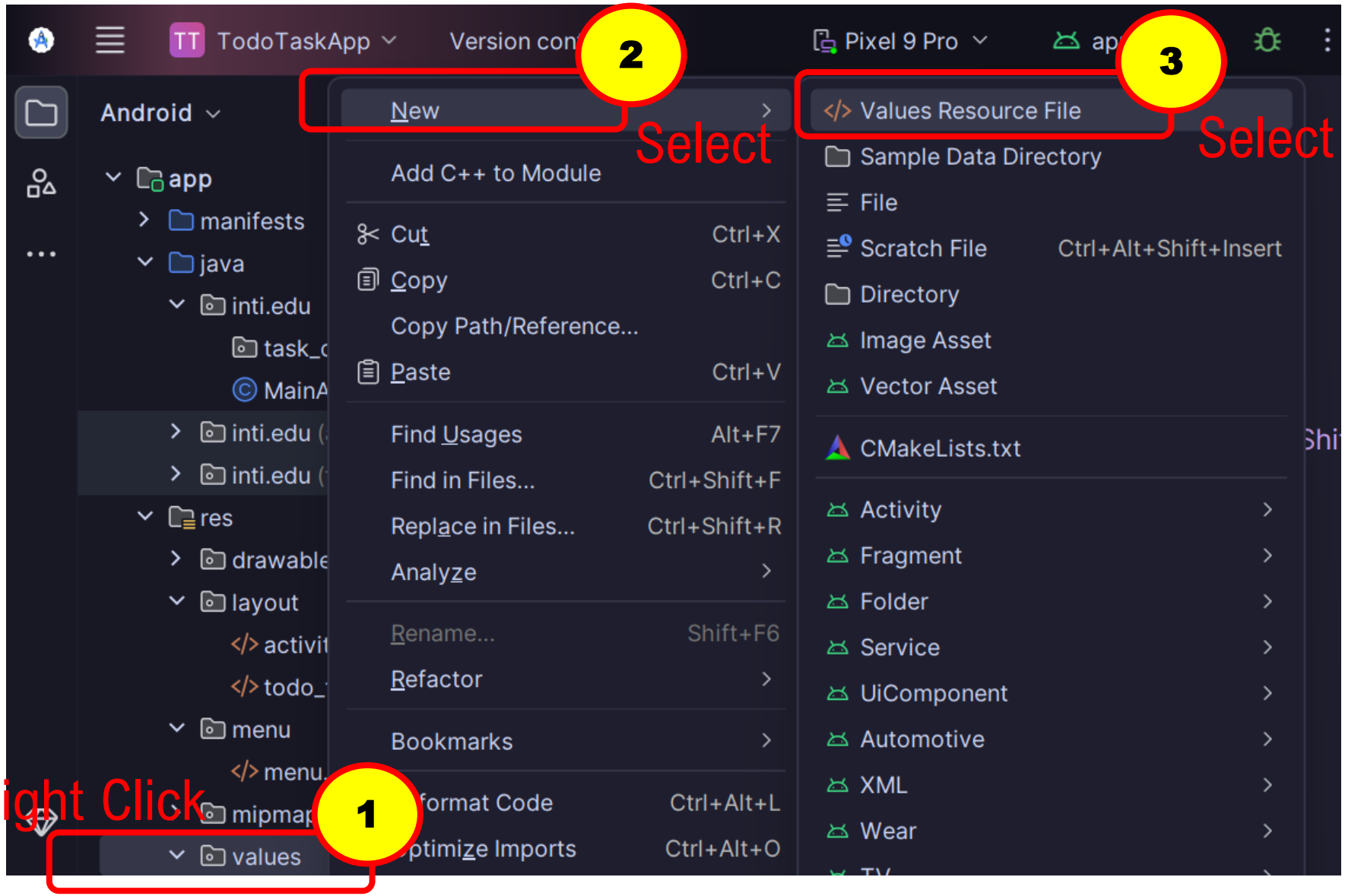
Add these 3 colors

- Add these 3 colours to colors.xml

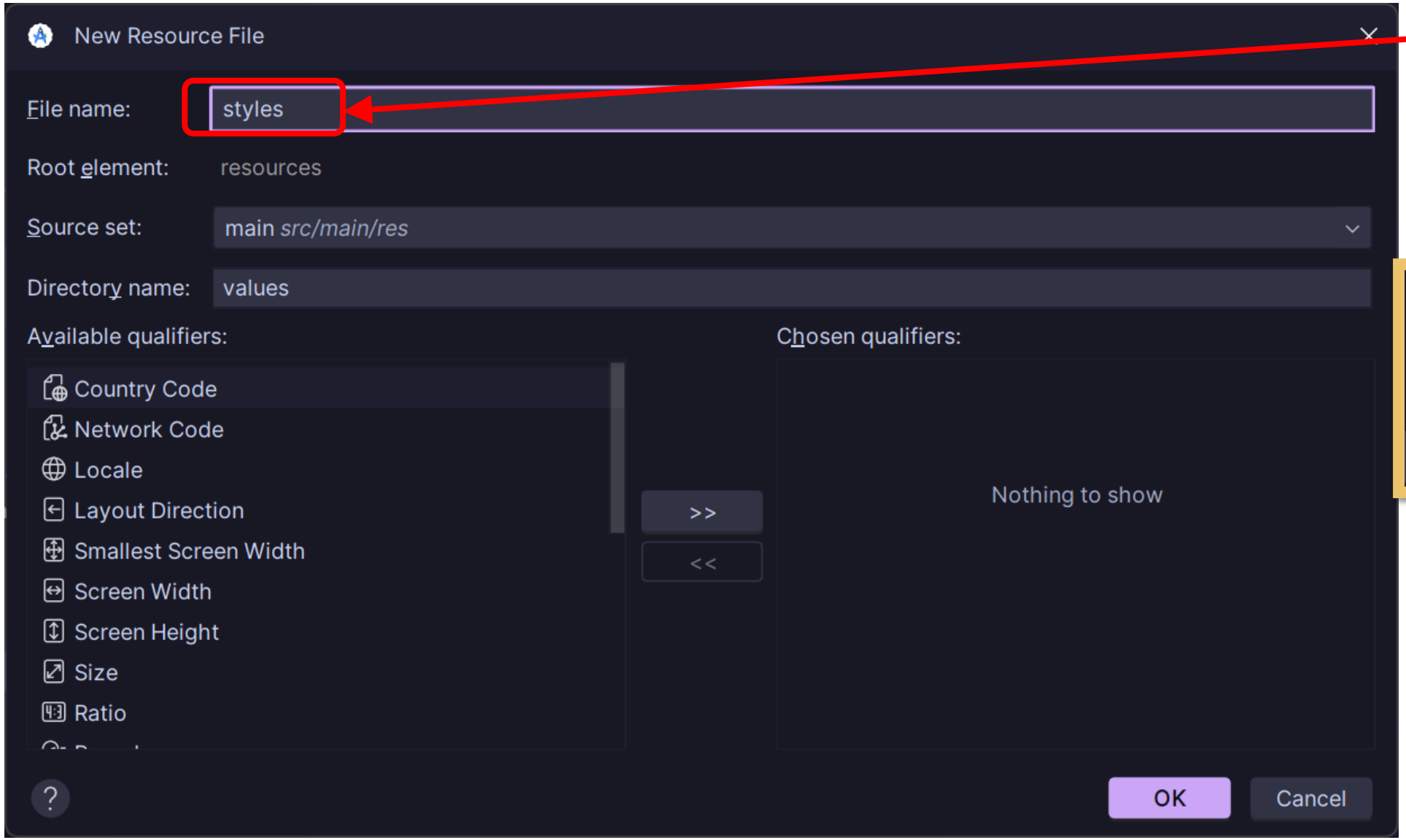
```
<color name="colorPrimary">#7895B2</color>
<color name="colorPrimaryDark">#C3BEF0</color>
<color name="colorAccent">#F4CE14</color>
```

Explore more interesting colours from this website:
https://colorhunt.co/

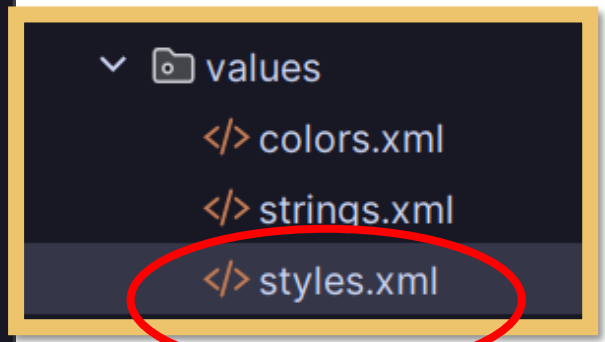
Create a new Values Resource File



Enter “styles” as the file name.



File Name:
“styles”



New value resource file created

Enter the code below into styles.xml:

styles.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>
</resources>
```

Update the activity_main.xml file as below

activity_main.xml

```
<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="50dp"
    android:paddingLeft="20dp"
    android:paddingRight="20dp"
    android:paddingTop="150dp"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <ListView
        android:id="@+id/list_todo"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        />

</LinearLayout>
```

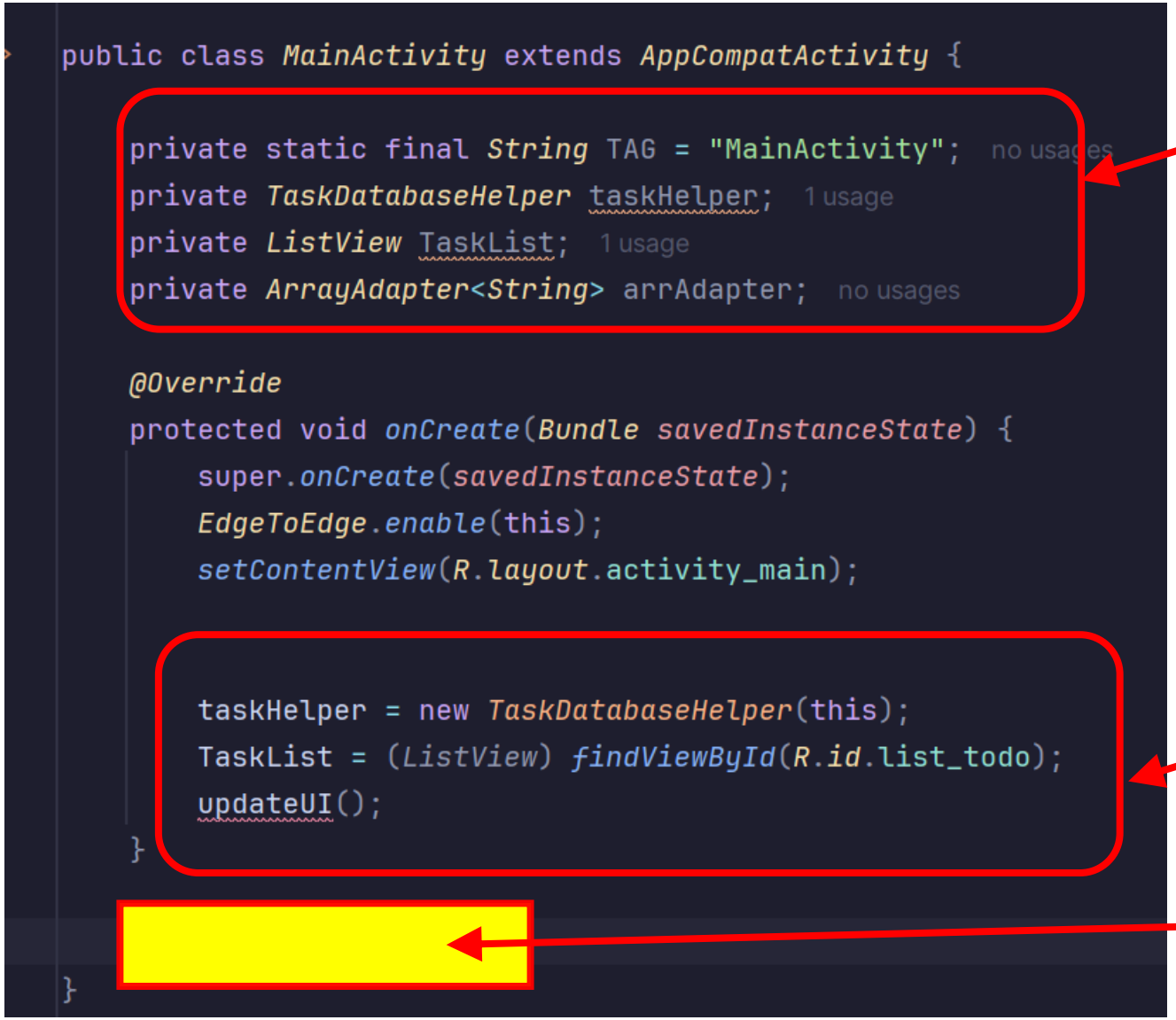
Section 5

Import the following classes:

MainActivity.java

```
1  package inti.edu;
2
3  import android.os.Bundle;
4
5  import androidx.activity.EdgeToEdge;
6  import androidx.appcompat.app.AppCompatActivity;
7  import androidx.appcompat.app.AlertDialog;
8
9  import android.database.sqlite.SQLiteDatabase;
10 import android.database.Cursor;
11
12 import android.view.Menu;
13 import android.view.MenuItem;
14 import android.view.View;
15
16 import android.widget.EditText;
17 import android.widget.ListView;
18 import android.widget.TextView;
19 import android.widget.ArrayAdapter;
20
21 import java.util.ArrayList;
22
23 import android.content.ContentValues;
24 import android.content.DialogInterface;
```

```
import inti.edu.task_database.TaskDatabaseHelper;
import inti.edu.task_database.TaskContract;
```



Add these code

Add these code

Add codes A, B, C, and D shown in the following slides

Code A

```
@Override  6 usages
public boolean onCreateOptionsMenu(Menu menu){
    getMenuInflater().inflate(R.menu.main_menu, menu);
    return super.onCreateOptionsMenu(menu);
}
```

Code B

```
if(item.getItemId() == R.id.action_add_task){
    final EditText taskEdit = new EditText(this);
    AlertDialog dialog = new AlertDialog.Builder(this)
                            .setTitle("Add a new task")
                            .setMessage("What do you want to do next?")
                            .setView(taskEdit)
                            .setPositiveButton("Add", new DialogInterface.OnClickListener(){
        @Override
        public void onClick(DialogInterface dialog, int which){
            String task = String.valueOf(taskEdit.getText());
            SQLiteDatabase db = taskHelper.getWritableDatabase();
            ContentValues values = new ContentValues();
            values.put(TaskContract.TaskEntry.COL_TASK_TITLE, task);
            db.insertWithOnConflict(TaskContract.TaskEntry.TABLE, null, values, SQLiteDatabase.CONFLICT_REPLACE);
            db.close();
            updateUI();
        }
    })
    .setNegativeButton("Cancel", null).create();
    dialog.show();
    return true;
```

```
@Override  3 usages
public boolean onOptionsItemSelected(MenuItem item){

}
```

```
    }else{
        return super.onOptionsItemSelected(item);
    }
}
```

Code C

```
public void deleteTask(View view){  1 usage
    View parent = (View) view.getParent();
    TextView taskTextView = (TextView) parent.findViewById(R.id.title_task);
    String task = String.valueOf(taskTextView.getText());
    SQLiteDatabase db = taskHelper.getWritableDatabase();
    db.delete(TaskContract.TaskEntry.TABLE, TaskContract.TaskEntry.COL_TASK_TITLE +
            " = ?", new String[]{task});
    db.close();
    updateUI();
}
```

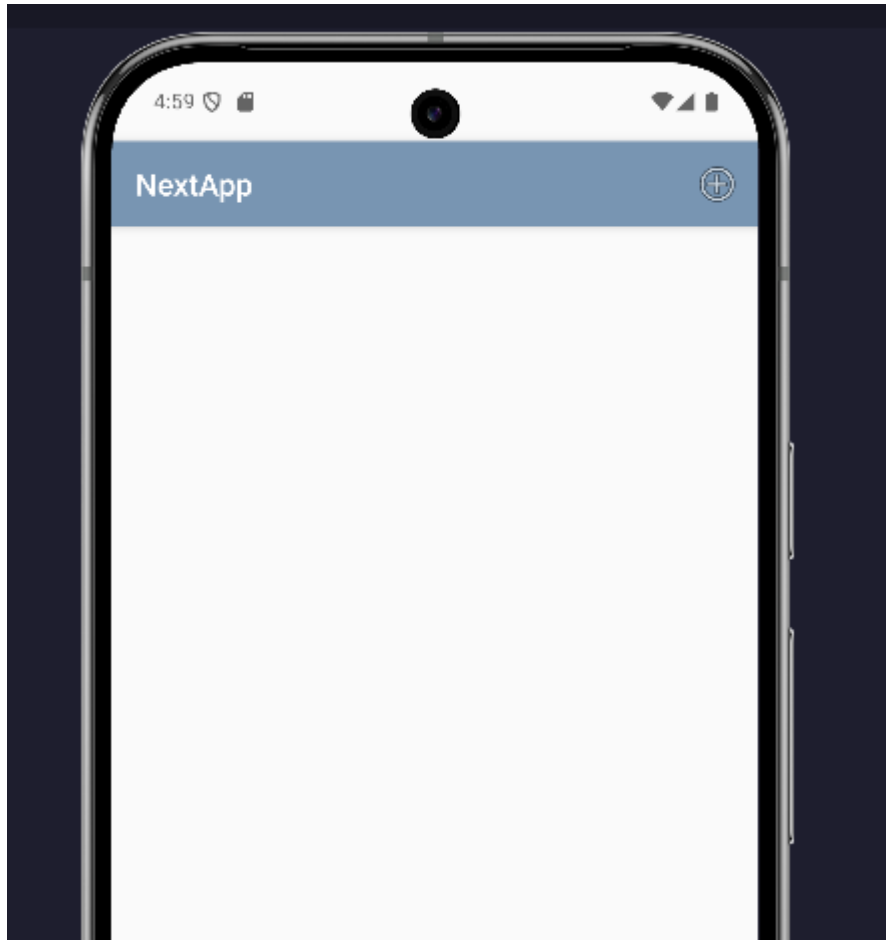
Code D

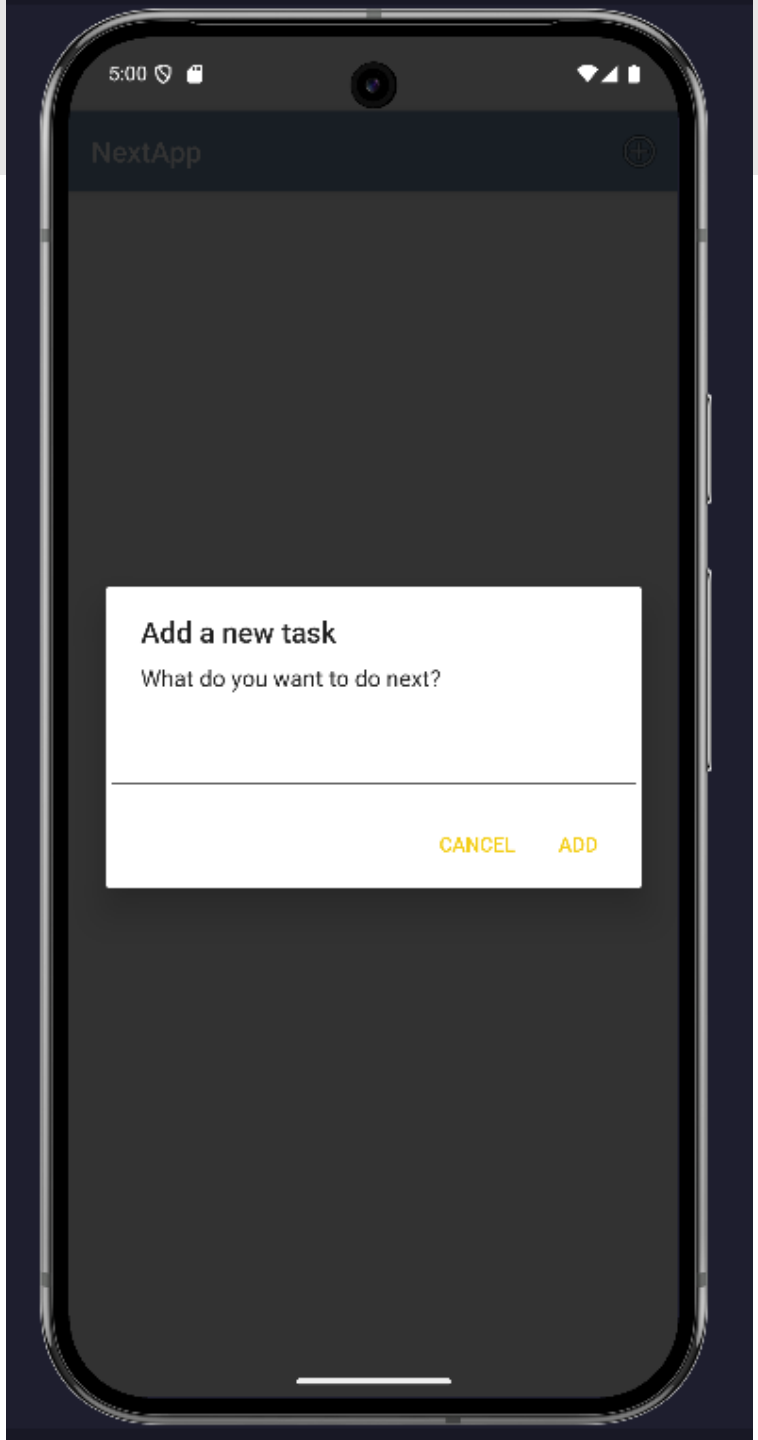
```
    public void updateUI(){  3 usages
        ArrayList<String> taskList = new ArrayList<>();
        SQLiteDatabase db = taskHelper.getReadableDatabase();
        Cursor cursor = db.query(TaskContract.TaskEntry.TABLE,
                                 new String[]{TaskContract.TaskEntry._ID, TaskContract.TaskEntry.COL_TASK_TITLE},
                                 null, null, null, null, null);

        while(cursor.moveToNext()){
            int idx = cursor.getColumnIndex(TaskContract.TaskEntry.COL_TASK_TITLE);
            taskList.add(cursor.getString(idx));
        }

        if(arrAdapter == null){
            arrAdapter = new ArrayAdapter<>(this, R.layout.todo_task, R.id.title_task, taskList);
            TaskList.setAdapter(arrAdapter);
        }else{
          arrAdapter.clear();
          arrAdapter.addAll(taskList);
          arrAdapter.notifyDataSetChanged();
        }
        cursor.close();
        db.close();
    }
}
```

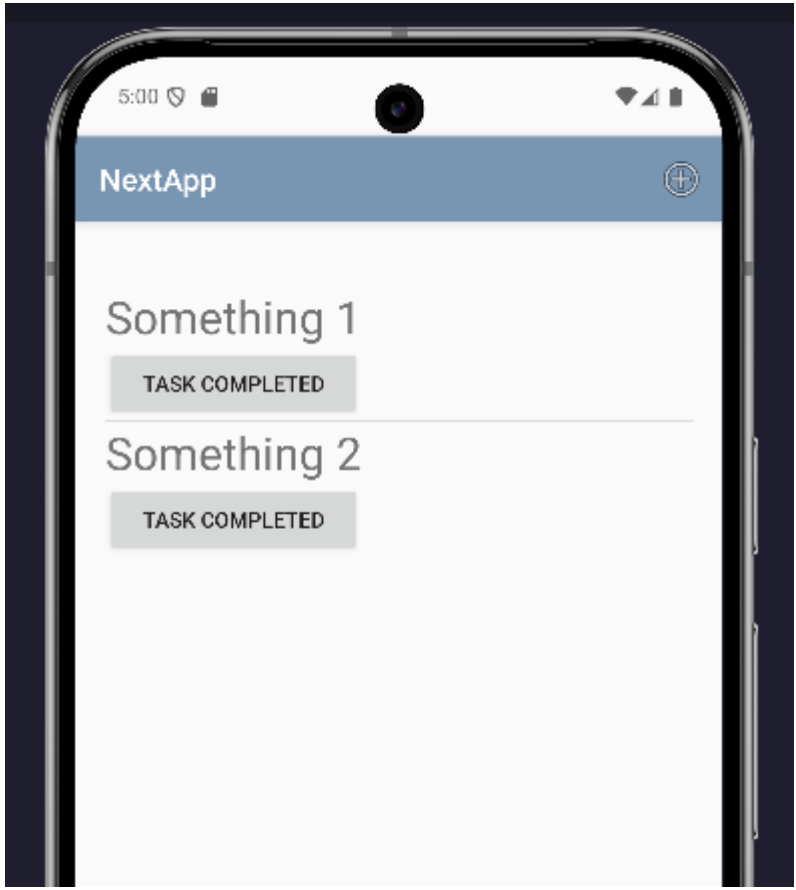
Update AndroidManifest.xml File

```
android:theme="@style/AppTheme">
```

Code is Complete.
Now Check the Output.


4:59
NextApp


5:00
NextApp
Add a new task
What do you want to do next?
CANCEL
ADD


5:00
NextApp
Something 1
TASK COMPLETED
Something 2
TASK COMPLETED