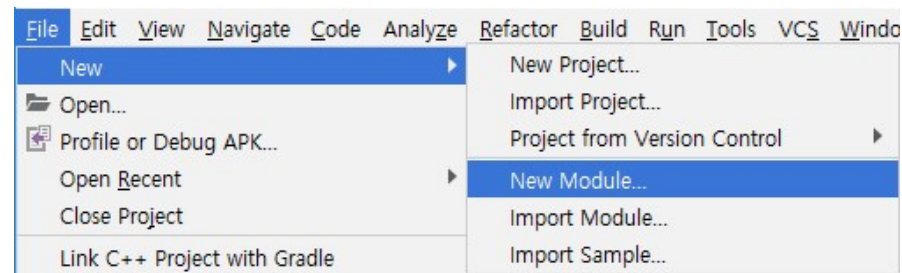
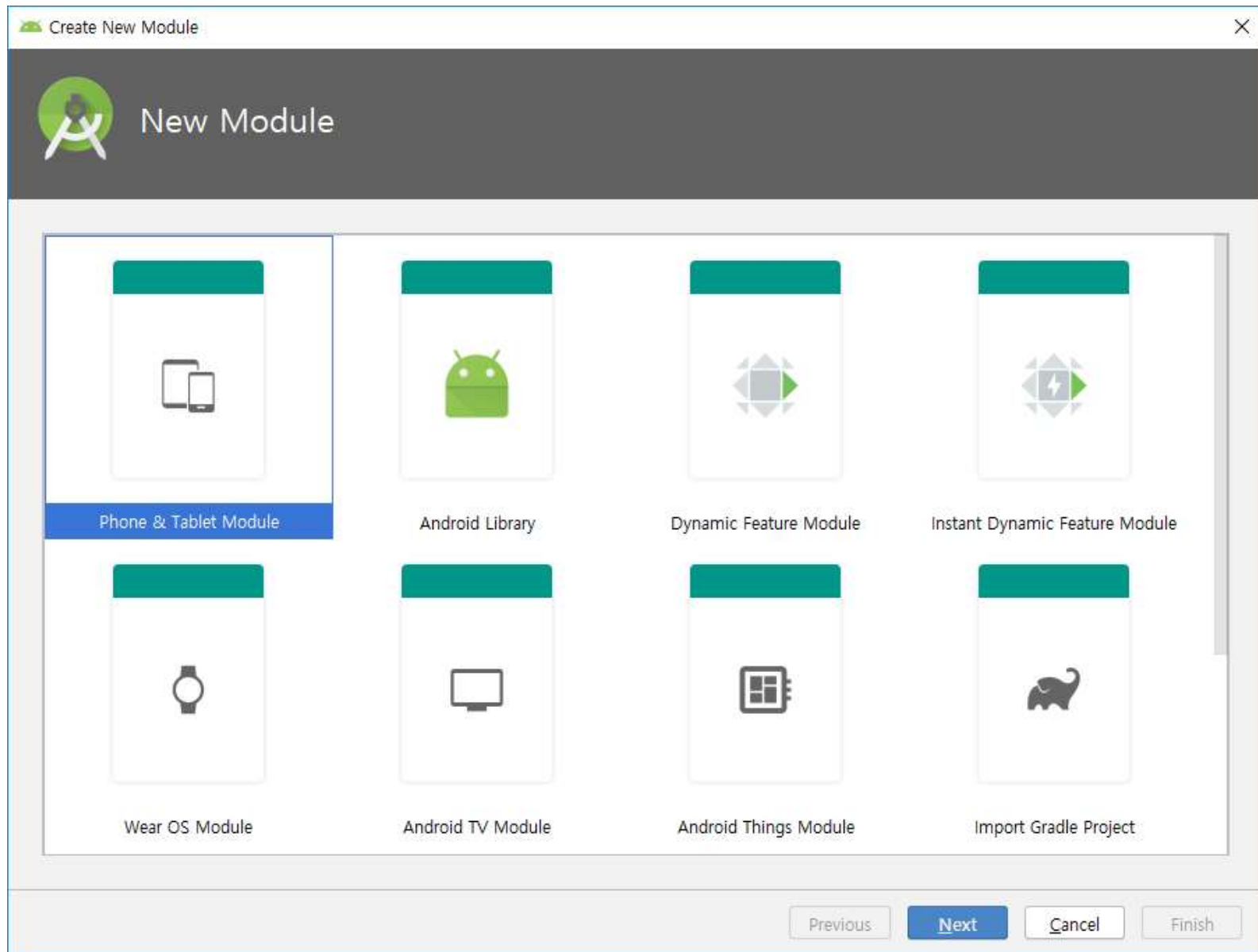




# Adapter

# Step 1 \_ 모듈 생성





Create New Module

 Phone & Tablet Module

### Configure the new module

**Application/Library name**

**Module name**

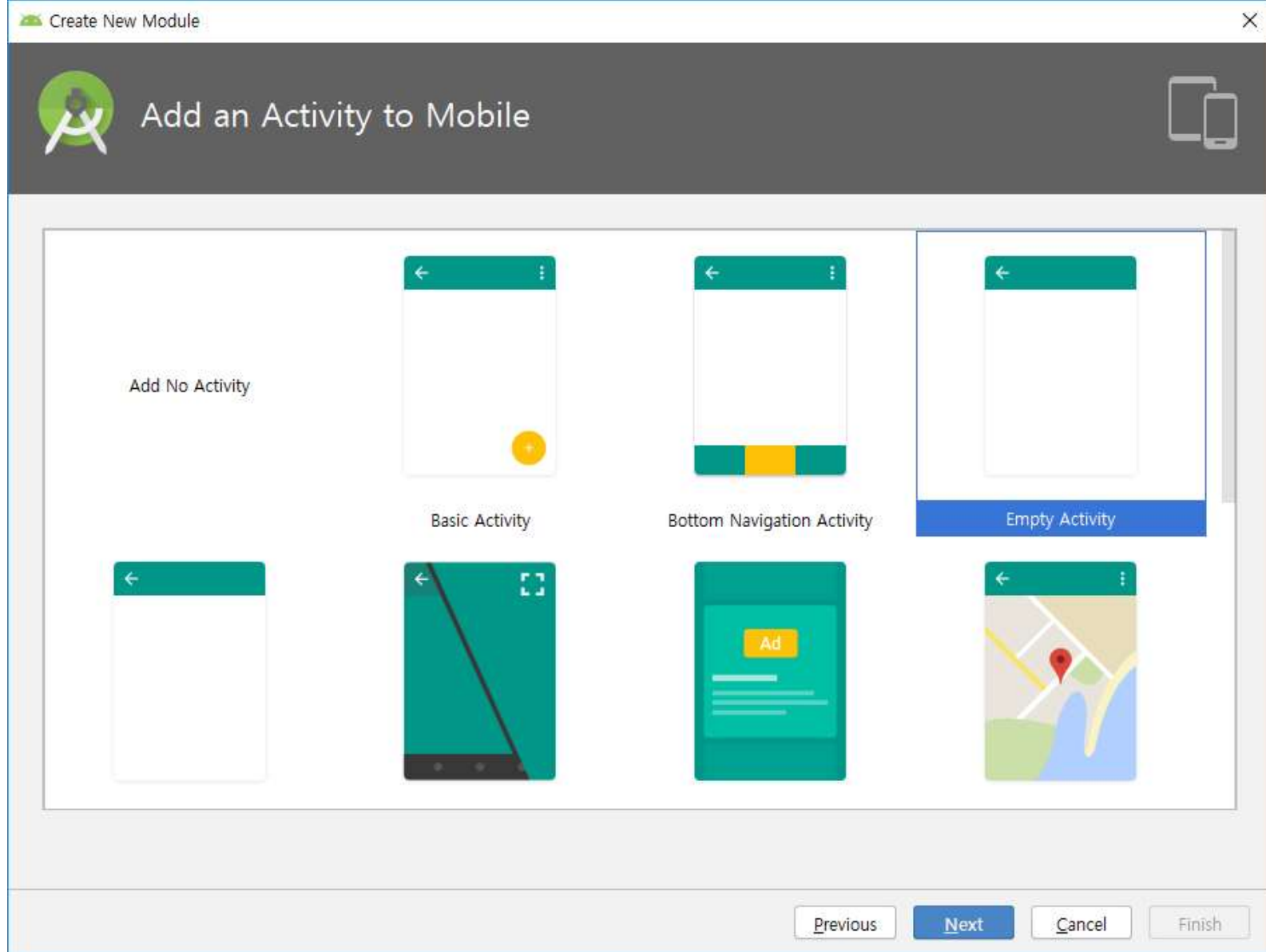
**Package name**

com.example.user.lab08 Edit



**Minimum SDK**

API 15: Android 4.0.3 (IceCreamSandwich) ▼

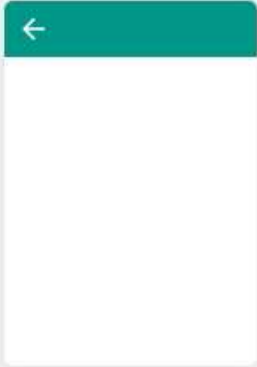
Previous Next Cancel Finish



Create New Module

 Configure Activity

### Creates a new empty activity



Activity Name:

☒ Generate Layout File

Layout Name:

Source Language:

The name of the activity class to create

Previous

Next

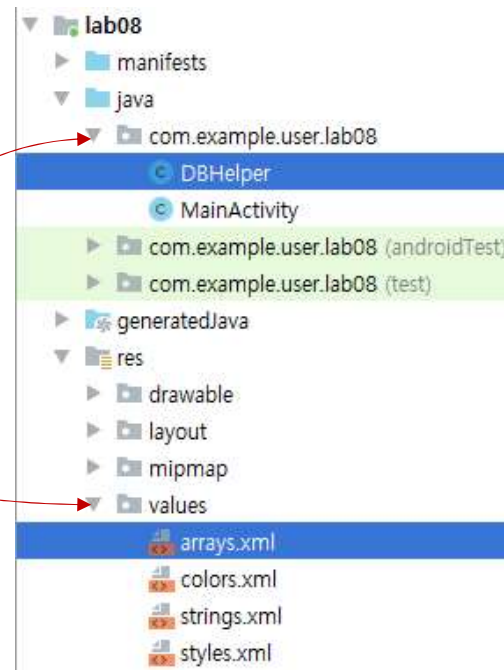
Cancel

Finish

## Step 2 \_ 파일 복사

DBHelper.java

arrays.xml



# Step 3 \_ activity\_main.xml 파일 작성

```
<?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">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="ArrayAdapter Test"
        android:textStyle="bold" />

    <ListView
        android:id="@+id/main_listview_array"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
```

```
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="SimpleAdapter Test"
    android:textStyle="bold" />

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

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="CursorAdapter Test"
    android:textStyle="bold" />

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

</LinearLayout>
```



# Step 4 \_ MainActivity 작성

```
public class MainActivity extends AppCompatActivity implements AdapterView.OnItemClickListener {  
  
    String[] arrayData;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        ListView arrayView = findViewById(R.id.main_listview_array);  
        arrayView.setOnItemClickListener(this);  
        ListView simpleView = findViewById(R.id.main_listview_simple);  
        ListView cursorView = findViewById(R.id.main_listview_cursor);  
    }  
}
```

```
arrayData = getResources().getStringArray(R.array.location);  
ArrayAdapter arrayAdapter = new ArrayAdapter(this,  
    android.R.layout.simple_list_item_1,  
    arrayData);  
arrayView.setAdapter(arrayAdapter);
```

← 항목에 문자열 데이터 하나

```
ArrayList<HashMap<String, String>> simpleData = new ArrayList<>();
DBHelper helper = new DBHelper(this);
SQLiteDatabase db = helper.getWritableDatabase();
Cursor cursor = db.rawQuery("select * from tb_data", null);
while (cursor.moveToNext()) {
    HashMap<String, String> map = new HashMap<>();
    map.put("name", cursor.getString(1));
    map.put("content", cursor.getString(2));
    simpleData.add(map);
}
```

```
SimpleAdapter adapter = new SimpleAdapter(this,
    simpleData,
    android.R.layout.simple_list_item_2, ← 항목에 문자열 데이터 두 개 위아래 나열
    new String[]{"name", "content"},
    new int[]{android.R.id.text1, android.R.id.text2});
simpleView.setAdapter(adapter);
```

```
// android.widget.CursorAdapter
```

```
// android.widget.SimpleCursorAdapter
```

```
CursorAdapter cursorAdapter = new SimpleCursorAdapter(this,
```

```
    android.R.layout.simple_list_item_2,
```

```
    cursor,
```

```
    new String[]{"name", "content"},
```

```
    new int[]{android.R.id.text1, android.R.id.text2},
```

```
    CursorAdapter.FLAG_REGISTER_CONTENT_OBSERVER);
```

```
cursorView.setAdapter(cursorAdapter);
```

```
}
```

The Cursor must include a column named "\_id" or this class will not work.

If set the adapter will register a content observer on the cursor and will call [onContentChanged\(\)](#) when a notification comes in.

```
@Override
```

The position of the view in the adapter.

```
public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
```

```
    Toast t = Toast.makeText(this, arrayData[position], Toast.LENGTH_SHORT);
```

```
    t.show();
```

```
}
```

```
}
```

The row id of the item that was clicked

```
public interface Adapter {  
    ...  
    public abstract long getItemId (int position);  
    ...  
}
```

# Step 5 \_ 실행



# Adapter와 AdapterView

- AdapterView is a ViewGroup that displays items loaded into an adapter.
  - AdapterView는 항목을 나열하는 뷰

```
public abstract class AdapterView  
extends ViewGroup
```

```
java.lang.Object
```

```
↳ android.view.View
```

```
↳ android.view.ViewGroup
```

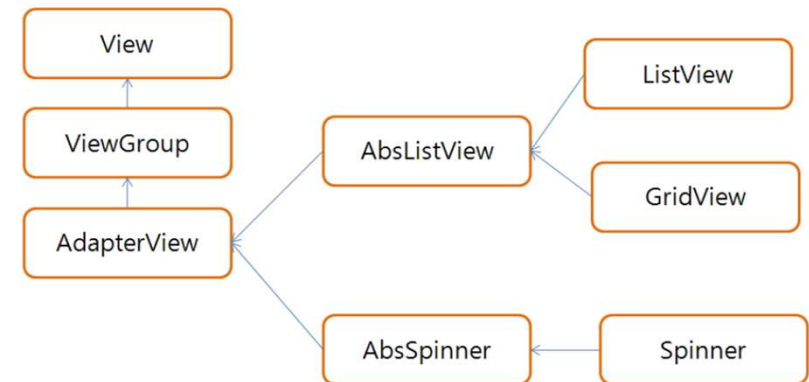
```
↳ android.widget.AdapterView<T extends android.widget.Adapter>
```

✓ Known direct subclasses

AbsListView, AbsSpinner, AdapterViewAnimator

✓ Known indirect subclasses

AdapterViewFlipper, ExpandableListView, Gallery, GridView, ListView, Spinner, StackView



<https://developer.android.com/reference/android/widget/AdapterView.html>

# Adapter와 AdapterView

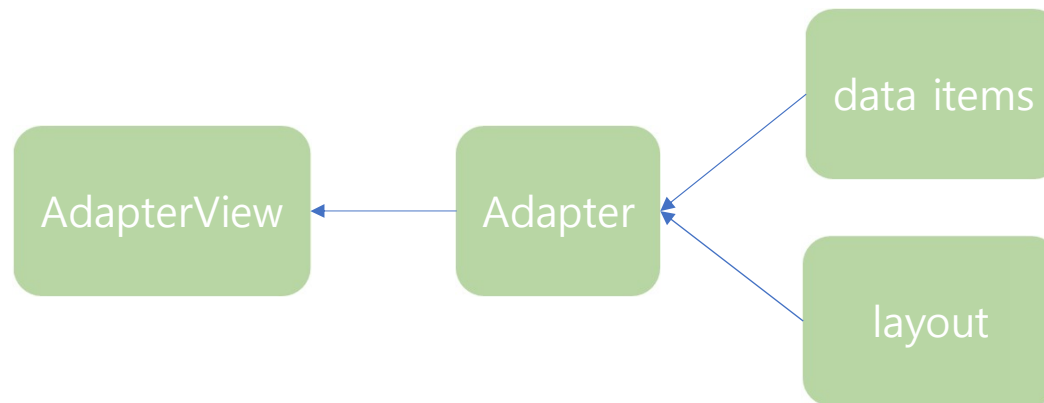
- An Adapter object acts as a bridge between an AdapterView and the underlying data for that view.
  - The Adapter provides access to the data items.
  - The Adapter is also responsible for making a View for each item in the data set.

```
public interface Adapter
```

```
android.widget.Adapter
```

Known indirect subclasses

`ArrayAdapter<T>`, `BaseAdapter`, `CursorAdapter`, `HeaderViewListAdapter`, `ListAdapter`, `ResourceCursorAdapter`, `SimpleAdapter`, `SimpleCursorAdapter`, `SpinnerAdapter`, `ThemedSpinnerAdapter`, `WrapperListAdapter`



<https://developer.android.com/reference/android/widget/Adapter.html>

## ArrayAdapter

Added in API level 1

```
public ArrayAdapter (Context context,  
                    int resource,  
                    T[] objects)
```

Constructor. This constructor will result in the underlying data collection being immutable, so methods such as `clear()` will throw an exception.

Parameters	
<b>context</b>	<b>Context:</b> The current context. This value must never be <b>null</b> .
<b>resource</b>	<b>int:</b> The resource ID for a layout file containing a TextView to use when instantiating views.
<b>objects</b>	<b>T:</b> The objects to represent in the ListView. This value must never be <b>null</b> .

<https://developer.android.com/reference/android/widget/ArrayAdapter.html>



## SimpleAdapter

Added in API level 1

```
public SimpleAdapter (Context context,  
    List<? extends Map<String, ?>> data,  
    int resource,  
    String[] from,  
    int[] to)
```

### Constructor

Parameters	
<b>context</b>	<b>Context:</b> The context where the View associated with this SimpleAdapter is running
<b>data</b>	<b>List:</b> A List of Maps. Each entry in the List corresponds to one row in the list. The Maps contain the data for each row, and should include all the entries specified in "from"
<b>resource</b>	<b>int:</b> Resource identifier of a view layout that defines the views for this list item. The layout file should include at least those named views defined in "to"
<b>from</b>	<b>String:</b> A list of column names that will be added to the Map associated with each item.
<b>to</b>	<b>int:</b> The views that should display column in the "from" parameter. These should all be TextViews. The first N views in this list are given the values of the first N columns in the from parameter.

<https://developer.android.com/reference/android/widget/SimpleAdapter.html>

## SimpleCursorAdapter

Added in API level 11

```
public SimpleCursorAdapter (Context context,  
    int layout,  
    Cursor c,  
    String[] from,  
    int[] to,  
    int flags)
```

Standard constructor.

Parameters	
context	<b>Context:</b> The context where the ListView associated with this SimpleListItemFactory is running
layout	<b>int:</b> resource identifier of a layout file that defines the views for this list item. The layout file should include at least those named views defined in "to"
c	<b>Cursor:</b> The database cursor. Can be null if the cursor is not available yet.
from	<b>String:</b> A list of column names representing the data to bind to the UI. Can be null if the cursor is not available yet.
to	<b>int:</b> The views that should display column in the "from" parameter. These should all be TextViews. The first N views in this list are given the values of the first N columns in the from parameter. Can be null if the cursor is not available yet.
flags	<b>int:</b> Flags used to determine the behavior of the adapter, as per <code>CursorAdapter#CursorAdapter(Context, Cursor, int)</code> .

<https://developer.android.com/reference/android/widget/SimpleCursorAdapter.html>