

Experiment no: 8

Date:

ListView using ArrayAdapter

Aim :

Develop an application that uses ArrayAdapter with ListView.

ALGORITHM:

Step 1: Create a ListView in the layout.

Step 2: Define a string array (dataset).

Step 3: Initialize ListView in `MainActivity`.

Step 4: Create an `ArrayAdapter` with context, layout, and dataset.

Step 5: Set the adapter to the ListView.

Step 6: Optionally, add `setOnClickListener()` to handle clicks.

CODE:

MainActivity.java:

```
package com.example.listviewdemo;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    ListView listView;
    String[] languages = {"Java", "JavaScript", "C++", "Python", "Kotlin"};

    @Override
```

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

    listView = findViewById(R.id.listView);

    // Enable single selection mode
    listView.setChoiceMode(ListView.CHOICE_MODE_SINGLE);

    try {
        // Create ArrayAdapter using a layout that supports highlighting
        ArrayAdapter<String> adapter = new ArrayAdapter<>(
            this,
            android.R.layout.simple_list_item_activated_1,
            languages
        );

        // Set adapter to ListView
        listView.setAdapter(adapter);

        // Handle item clicks
        listView.setOnItemClickListener((parent, view, position, id) -> {
            listView.setItemChecked(position, true);
            String item = languages[position];
            Toast.makeText(this, "You selected: " + item, Toast.LENGTH_SHORT).show();
        });

    } catch (Exception e) {
        Toast.makeText(this, "Error: " + e.getMessage(), Toast.LENGTH_LONG).show();
    }
}
```

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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Programming Languages"
        android:textSize="22sp"
        android:textStyle="bold"
        android:gravity="center"
        android:padding="10dp"
        android:textColor="@android:color/black" />

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:divider="@android:color/darker_gray"
        android:dividerHeight="1dp"
        android:choiceMode="singleChoice"/>
</LinearLayout>
```

OUTPUT:



