**1. Write an Android Program to display the List of Friends Name and Images (View: TextView & ImageView)**

**Activity\_main.xml**

*<?*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="match\_parent"  
 tools:context=".MainActivity">  
 <ListView  
 android:id="@+id/customlistview"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 android:divider="@color/black"  
 android:dividerHeight="2dp"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ListView;

import java.util.List;

public class MainActivity extends AppCompatActivity {

String friendList[]={"Jayashree","Rahul"};

int friendImages[]={R.drawable.*boy*,R.drawable.*girl*};

ListView listView;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

listView=(ListView) findViewById(R.id.*customlistview*);

CustomBaseAdapter customBaseAdapter=new CustomBaseAdapter(getApplicationContext(),friendList,friendImages);

listView.setAdapter(customBaseAdapter);

listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {

@Override

public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {

Log.*i*("CUSTOM\_LIST\_VIEW","Item is clicked @ position ::"+i);

}

});

}

}

**XML code 2(activity\_custom\_list\_view)**

*<?*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:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".CustomListView">

<ImageView

android:layout\_width="100dp"

android:layout\_height="100dp"

android:id="@+id/imageicon1"/>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/txt1"

android:gravity="center"

android:text="My Text"

android:textSize="30sp"/>

</LinearLayout>

**Java code 2(CustomListView. Java)**

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class CustomListView extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_custom\_list\_view*);

}

}

**CustomBaseAdapter.java**

package com.example.myapplication;

import android.content.Context;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

import android.widget.BaseAdapter;

import android.widget.ImageView;

import android.widget.TextView;

public class CustomBaseAdapter extends BaseAdapter {

Context context;

String listFriend[];

int listImages[];

LayoutInflater inflater;

public CustomBaseAdapter(Context ctx,String[] friendList,int[] images){

this.context=ctx;

this.listFriend=friendList;

this.listImages=images;

inflater=LayoutInflater.*from*(ctx);

}

@Override

public int getCount() {

return listFriend.length ;

}

@Override

public Object getItem(int i) {

return null;

}

@Override

public long getItemId(int i) {

return 0;

}

@Override

public View getView(int i, View view, ViewGroup viewGroup) {

View convertView = inflater.inflate(R.layout.*activity\_custom\_list\_view*, null);

TextView txtView=(TextView) convertView.findViewById(R.id.*txt1*);

ImageView friendImg=(ImageView) convertView.findViewById(R.id.*imageicon1*);

txtView.setText(listFriend[i]);

friendImg.setImageResource(listImages[i]);

return convertView;

}

**2. Create a Custom Listview in Android Application.**

**XML Code**

**XML code:**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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:padding="16dp"  
 tools:context=".MainActivity">  
  
 <ListView  
 android:id="@+id/listView1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent" />  
</RelativeLayout>

**Java code:**

package com.example.myapplication;

import android.os.Bundle;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

ListView listView = findViewById(R.id.*listView1*);

String[] data = {"Item 1", "Item 2", "Item 3", "Item 4", "Item 5"};

ArrayAdapter<String> adapter = new ArrayAdapter<>(this, android.R.layout.*simple\_list\_item\_1*, data);

listView.setAdapter(adapter);

listView.setOnItemClickListener((parent, view, position, id) -> {

String selectedItem = data[position];

Toast.*makeText*(this, "You clicked: " + selectedItem, Toast.*LENGTH\_SHORT*).show();

});

}

}

**3. Create an Android Application that Demonstrates ListView and Onclick of List Display with Toast Message.**

**XML code:**

*<?*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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp"  
 tools:context=".MainActivity">  
  
 <ListView  
 android:id="@+id/listView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"/>  
</LinearLayout>

**Java code:**

package com.example.myapplication;

import java.util.ArrayList;

import java.util.Arrays;

import java.util.List;

import android.graphics.Color;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.widget.TextView;

import android.view.ViewGroup;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

ListView fruitView;

String[] fruits = new String[]

{

"Mango",

"Orange",

"Guava",

"Banana",

"Pineapple",

"Apple"

};

List<String> fruitList;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

fruitView = (ListView) findViewById(R.id.*listView*);

fruitList = new ArrayList<String>(Arrays.*asList*(fruits));

ArrayAdapter<String> adapter = new ArrayAdapter<String>(this, android.R.layout.*simple\_list\_item\_2*, android.R.id.*text1*, fruitList) {

@Override

public View getView(int position, View convertView, ViewGroup parent) {

View view = super.getView(position, convertView, parent);

TextView ListItemShow = (TextView) view.findViewById(android.R.id.*text1*);

ListItemShow.setTextColor(Color.*parseColor*("#000000"));

return view;

}

};

fruitView.setAdapter(adapter);

fruitView.setOnItemClickListener(new AdapterView.OnItemClickListener()

{

@Override

public void onItemClick(AdapterView<?> parent, View view,

int position, long id) {

Toast.*makeText*(MainActivity.this, "clicked item is " +fruits[position], Toast.*LENGTH\_SHORT*).show();

}

});

}

}

**4. Create the following Vertical Scroll View Creation in Android.**

**XML code:**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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="match\_parent"  
 tools:context=".MainActivity">  
  
  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text=" A ScrollView "  
 android:id="@+id/textView"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_centerHorizontal="true"  
 android:layout\_alignParentTop="true"  
 android:textColor="@color/black"  
 android:textSize="20sp"/>  
  
  
 <ScrollView android:layout\_marginTop="30dp"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/scrollView"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginRight="10dp">  
  
  
 <LinearLayout  
 android:layout\_width="fill\_parent"  
 android:layout\_height="fill\_parent"  
 android:orientation="vertical" >  
  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 1" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 2" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 3" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 4" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 5" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 6" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 7" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 8" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 9" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 10" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 11" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 12" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 13" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 14" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 15" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 16" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 17" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 18" />  
  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 19" />  
 <Button  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Button 20" />  
  
 </LinearLayout>  
  
 </ScrollView>  
  
</RelativeLayout>

**Java code:**

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

}

}