Program 9

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Create an android application to demonstrate ImageView and GridView.

MainActivity.java

```java
package com.example.gridview;

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.GridView;

import com.example.gridview.ImageAdapter;

import com.example.gridview.SingleViewActivity;


public class MainActivity extends Activity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        GridView gridview = (GridView)findViewById(R.id.gridview);

        gridview.setAdapter(new ImageAdapter(this));

        gridview.setOnItemClickListener(new AdapterView.OnItemClickListener() {

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

// Send intent toSingleViewActivity3 of 9

                Intent i = new Intent(getApplicationContext(), SingleViewActivity.class);

                i.putExtra("id", position);

                startActivity(i);

            }
        });

    }

}
```

ImageAdaptor.java

package com.example.gridview;

import android.content.Context;

import android.view.View;

import android.view.ViewGroup;

import android.widget.BaseAdapter;

import android.widget.GridView;

import android.widget.ImageView;

```java
class ImageAdapter extends BaseAdapter {
    private Context mContext;
    // Constructor
    public ImageAdapter(Context c) {
        mContext = c;
    }

    public int getCount() {
        return picIds.length;
    }

    public Object getItem(int position) {
        return null;
    }
    public long getItemId(int position) {

        return 0;
    }

    // create a new ImageView for each item
    //referenced by the Adapter
    public View getView(int position, View convertView, ViewGroup parent) {
        ImageView imageView;

        if (convertView == null) {
            imageView = new ImageView(mContext);
```

```java
        imageView.setLayoutParams(new GridView.LayoutParams(120, 120));


        imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);

        imageView.setPadding(8, 8, 8, 8);

    }

    else

    {

        imageView = (ImageView) convertView;

    }

    imageView.setImageResource(picIds[position]);

    return imageView;

}

// Keep all Images in array
public Integer[] picIds = {

        R.drawable.a,

        R.drawable.b,

        R.drawable.c,

        R.drawable.d,

        R.drawable.e,

        R.drawable.f,

        R.drawable.g,

        R.drawable.a,

        R.drawable.b,

        R.drawable.c,

        R.drawable.d,

        R.drawable.e,

        R.drawable.f,

        R.drawable.g,

        R.drawable.a,

        R.drawable.b,

        R.drawable.c,

        R.drawable.d,

        R.drawable.e,
```

```
        R.drawable.f,

        R.drawable.g,

        R.drawable.a,

        R.drawable.a,

        R.drawable.b

    };

}
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<GridView xmlns:android="http://schemas.android.com/apk/res/android"

    android:id="@+id/gridview"

    android:layout_width="fill_parent"

    android:layout_height="fill_parent"

    android:columnWidth="120dp"

    android:numColumns="3"

    android:verticalSpacing="10dp"

    android:horizontalSpacing="10dp"

    android:stretchMode="columnWidth"

    android:gravity="center"

    />
```

Activity_single_view.xml

```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=".SingleViewActivity">

</androidx.constraintlayout.widget.ConstraintLayout>
```

SingleViewActivity.java

```java
package com.example.gridview;

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.ImageView;

public class SingleViewActivity extends Activity {
```

```java
    @Override
    public void onCreate(Bundle
                    savedInstanceState)  {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.single_view);


// Get intent data
        Intent i = getIntent();


// Selected image id
        int position = i.getExtras().getInt("id");
        ImageAdapter imageAdapter = new
            ImageAdapter(this);

        ImageView imageView = (ImageView)
            findViewById(R.id.SingleView);


        imageView.setImageResource(imageAdapter.picIds[position]);
}
```