Experiment Number 19 (Exercise 1):
Write a program to create your own content provider to insert and access data in android application.

//code for AndroidManifest.xml file location app folder

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.cntbar">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.CntBAR">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>

        </activity>

    </application>
    <uses-permission android:name="android.permission.READ_CONTACTS"></uses-permission>
    <uses-permission android:name="android.permission.WRITE_CONTACTS"></uses-permission>
</manifest>
```

//code for MainActivity.java file location java folder

```java
public class MainActivity extends AppCompatActivity {
    ListView list;
    ArrayList<String>listdata;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        list=findViewById(R.id.list);

        listdata=new ArrayList<String>();

        fetchcontect();
    }

    private void fetchcontect() {

        if (ContextCompat.checkSelfPermission(this, Manifest.permission.READ_CONTACTS)!=
PackageManager.PERMISSION_GRANTED)
        {
            ActivityCompat.requestPermissions(this,new String[]{Manifest.permission.READ_CONTACTS},0);
        }
        ContentResolver resolver=getContentResolver();
        Uri uri= ContactsContract.CommonDataKinds.Phone.CONTENT_URI;
```

```java
        String[] projection=null;   //use to access column-wise Data
        String selection=null;    //use to access Row-Wise Data
        String[] selectonArgs=null;
        String order=null;

        Cursor cursor= resolver.query(uri,projection,selection,selectonArgs,order);
        if (cursor.getCount()>0)
        {
           while (cursor.moveToNext())
           {
              String
name=cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAM
E));
              String
number=cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

              String mycontact=name+ "\n" + number;
              listdata.add(mycontact);
           }
        }
        ArrayAdapter<String>adapter=new ArrayAdapterz
<String>(this,android.R.layout.simple_list_item_1,listdata);
        list.setAdapter(adapter);
    }
}
```

//Code for activity_main.xml location layout folder

```xml
<?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"
    tools:context=".MainActivity">

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

</LinearLayout>
```

Output: