Ex. No. 02	**Develop an application that uses Layout Managers and Event**

Aim:

To develop a Simple Android Application that uses Layout Managers and Event Listeners.

Procedure:

Creating a New project:

Open Android Studio and then click on **File -> New -> New project**.

Then type the Application name as **"exno2″** and click Next.

Then **select the Minimum SDK** as shown below and click next.

Then **select the Empty Activity** and click next.

Finally click **Finish**.

It will take some time to build and load the project.

Creating Second Activity for the Android Application:

Click on **File -> New -> Activity -> Empty Activity**.

Type the Activity Name as **SecondActivity** and click Finish button.

Thus Second Activity For the application is created.

Designing Layout for Main Activity:

Click on **app -> res -> layout -> activity_main.xml**.

Now click on Text.

Designing Layout for Second Activity:

Click on **app -> res -> layout -> activity_second.xml**.

Now click on Text.

Now click on Design and your activity will be displayed.

So now the designing part of Second Activity is also completed.

Java Coding for the Android Application:

Java Coding for Main Activity:

Click on **app -> java -> com.example.exno2 -> MainActivity**.

Java Coding for Second Activity:

Click on **app -> java -> com.example.exno2 -> SecondActivity**.

So now the Coding part of Second Activity is also completed.

Now run the application to see the output.

Code for Activity_main.xml:

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

<LinearLayout
```

```xml
        android:layout_width="match_parent"
        android:layout_height="100dp">
    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="30dp"
        android:text="Details Form"
        android:textSize="25sp"
        android:gravity="center"/>
</LinearLayout>
<GridLayout
    android:id="@+id/gridLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="100dp"
    android:layout_marginBottom="200dp"
    android:columnCount="2"
    android:rowCount="3">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="0"
        android:text="Name"
        android:textSize="20sp"
        android:gravity="center"/>

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="1"
        android:ems="10"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="0"
        android:text="Reg.No"
        android:textSize="20sp"
        android:gravity="center"/>
<EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="1"
        android:inputType="number"
        android:ems="10"/>

<TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="0"
        android:text="Dept"
        android:textSize="20sp"
        android:gravity="center"/>
<Spinner
        android:id="@+id/spinner"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="1"
        android:spinnerMode="dropdown"/>
</GridLayout>
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentBottom="true"
```

```xml
            android:layout_centerInParent="true"
            android:layout_marginBottom="150dp"
            android:text="Submit"/>

</RelativeLayout>
```

Code for Activity_second.xml:

```xml
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns: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"
    tools:context="com.example.devang.exno2.SecondActivity"
    android:orientation="vertical"
    android:gravity="center">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>
</LinearLayout>
```

Code for MainActivity.java:

```java
package com.example.exno2;

import android.content.Intent;
```

```java
//import android.support.v7.app.AppCompatActivity;import
android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button; import
android.widget.EditText; import
android.widget.Spinner;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    //Defining the Views
    EditText e1,e2;
    Button bt;
    Spinner s;

    //Data for populating in Spinner
    String []

    dept_array={"CSE","ECE","IT","Mech","Civil"};String

    name,reg,dept;

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

        //Referring the Views
        e1= (EditText) findViewById(R.id.editText);
        e2= (EditText) findViewById(R.id.editText2);bt= (Button) findViewById(R.id.button);
        s= (Spinner) findViewById(R.id.spinner);

        //Creating Adapter for Spinner for adapting the data from array to Spinner
        ArrayAdapter adapter=new
        ArrayAdapter(MainActivity.this,android.R.layout.simple_spinner_item,dept_array);
         s.setAdapter(adapter);

        //Creating Listener for Button
        bt.setOnClickListener(new View.OnClickListener()
        {
```

```java
        @Override
        public void onClick(View v) {

            //Getting the Values from Views(Edittext & Spinner)
            name=e1.getText().toString();
            reg=e2.getText().toString();
            dept=s.getSelectedItem().toString();

            //Intent For Navigating to Second Activity
            Intent i = new Intent(MainActivity.this,SecondActivity.class);

            //For Passing the Values to Second Activity
            i.putExtra("name_key", name);
            i.putExtra("reg_key",reg);
            i.putExtra("dept_key", dept);

            startActivity(i);
        }
    });
  }
}
```

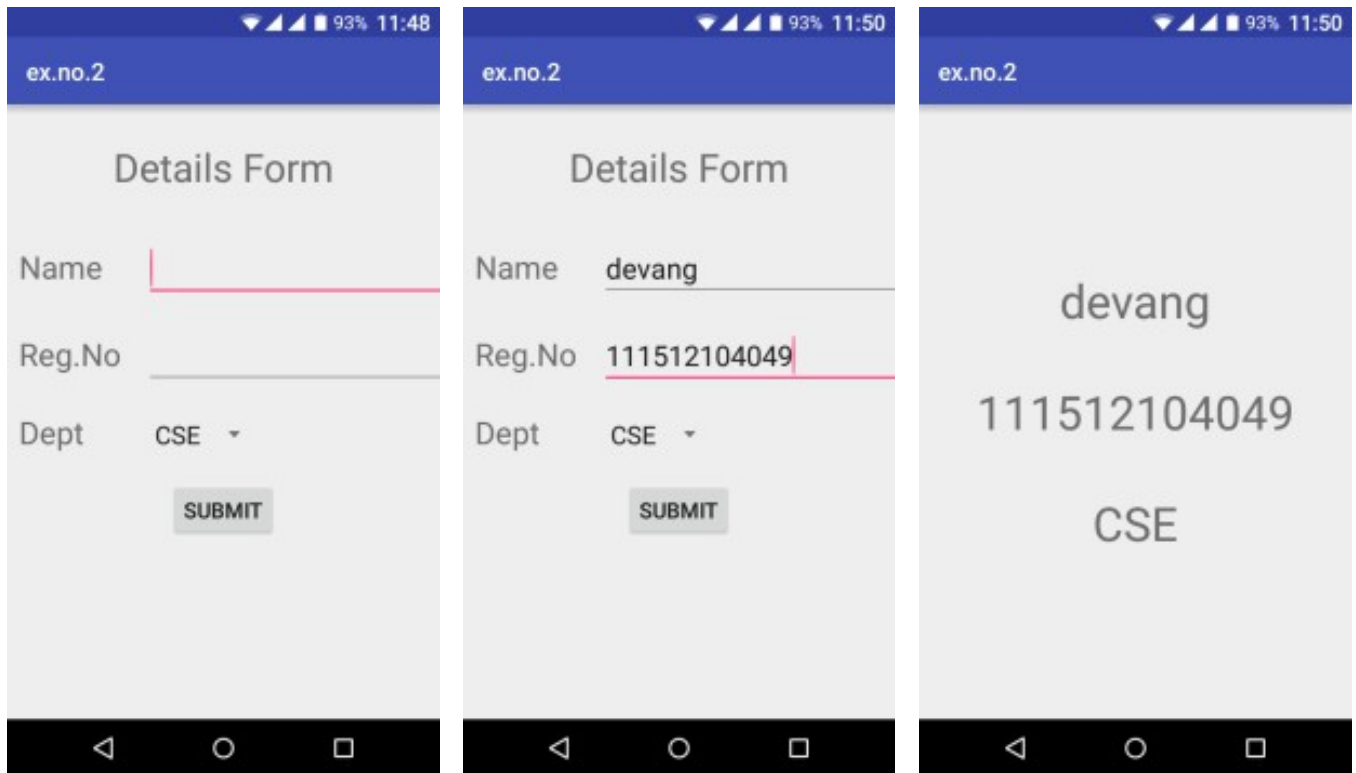**Code for SecondActivity.java:**

```java
package com.example.exno2;

import android.content.Intent;
//import android.support.v7.app.AppCompatActivity;import
android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {
  TextView t1,t2,t3;
  String name,reg,dept;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_second);
    t1=                              (TextView)
    findViewById(R.id.textView1);            t2=
    (TextView)    findViewById(R.id.textView2);
    t3=                              (TextView)
    findViewById(R.id.textView3);
```

```java
        //Getting the Intent
        Intent i = getIntent();
        //Getting the Values from First Activity using the Intent received
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");
        //Setting the Values to Intent
        t1.setText(name);
        t2.setText(reg);
        t3.setText(dept);
    }
}
```

Output:

Result:

     Thus a Simple Android Application that uses Layout Managers and Event Listeners is developed and executed successfully.