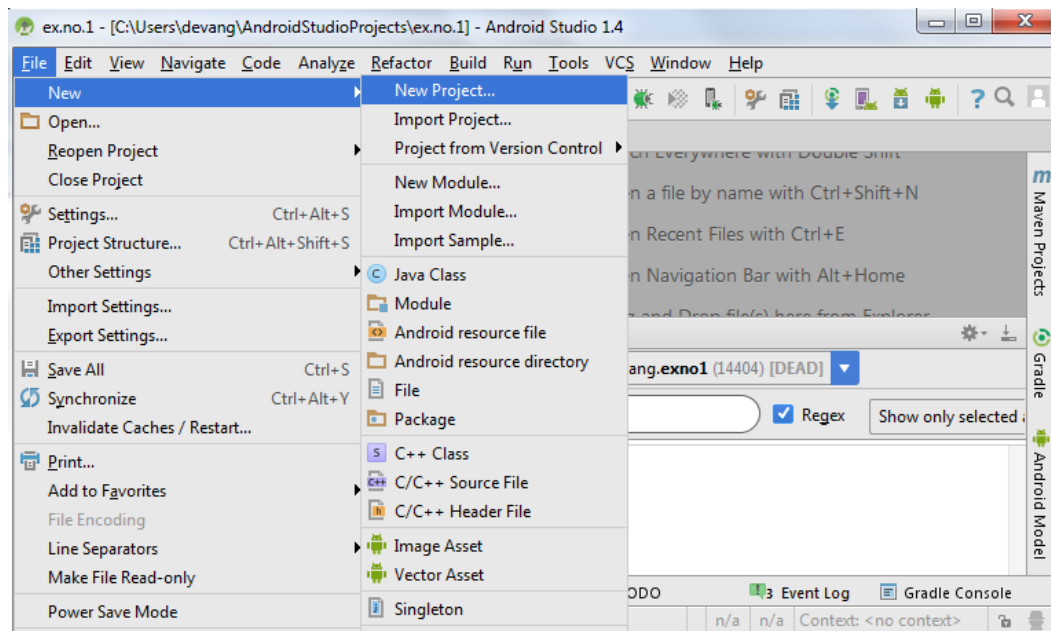


Aim:

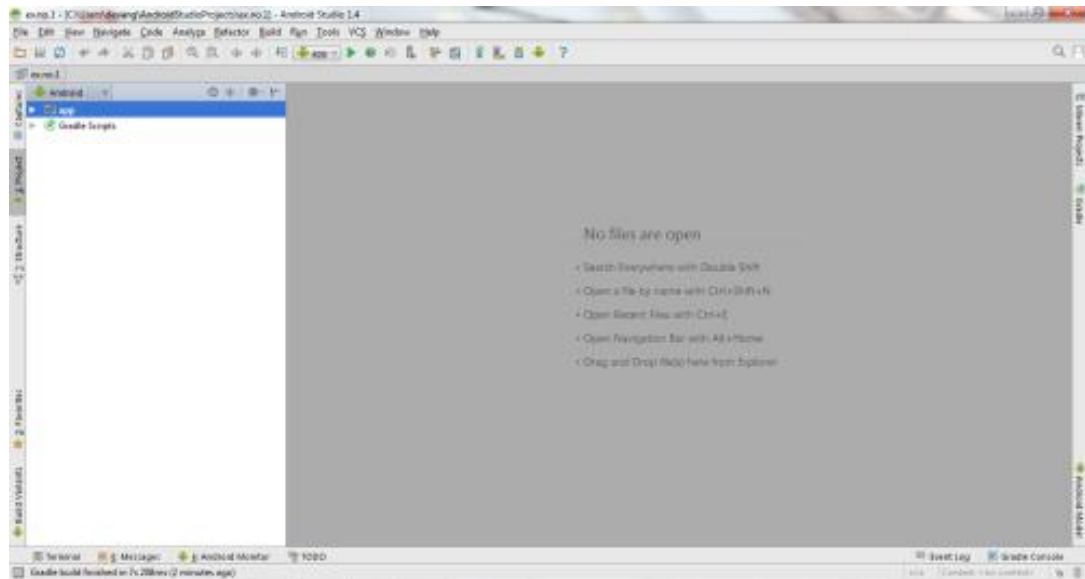
To develop a Simple Android Application that uses GUI components, Font and Colors.

Procedure:**Creating a New project:**

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



- Then type the Application name as **"exno1"** 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.
- After completion it will look as given below.



Designing layout for the Android Application:

- Click on **app** -> **res** -> **layout** -> **activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for Activity_main.xml:

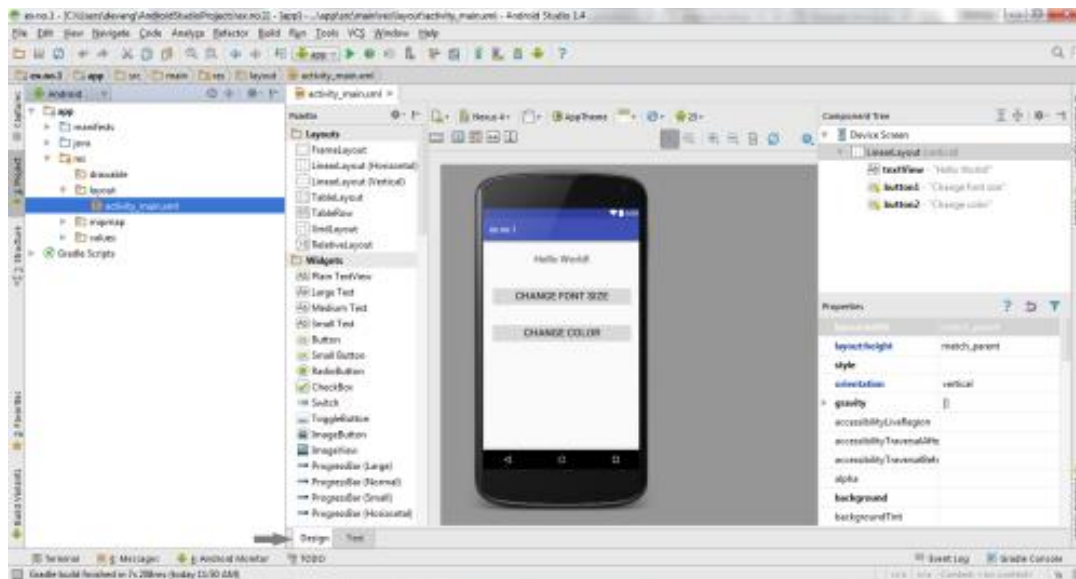
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
<TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="30dp"
    android:gravity="center"
    android:text="Hello World!"
    android:textSize="25sp"
    android:textStyle="bold" />
<Button
    android:id="@+id/button1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    android:text="Change font size"
    android:textSize="25sp" />
```

<Button

```
android:id="@+id/button2"  
android:layout_width="match_parent"  
android:layout_height="wrap_content"  
android:layout_margin="20dp"  
android:gravity="center"  
android:text="Change color"  
android:textSize="25sp" />
```

</LinearLayout>

- Now click on Design and your application will look as given below.



- So now the designing part is completed.

Java Coding for the Android Application:

- Click on **app -> java -> com.example.exno1 -> MainActivity**.
- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
package com.example.exno1;  
import android.graphics.Color;  
//import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
public class MainActivity extends AppCompatActivity  
{  
    int ch=1;  
    float font=30;
```

```

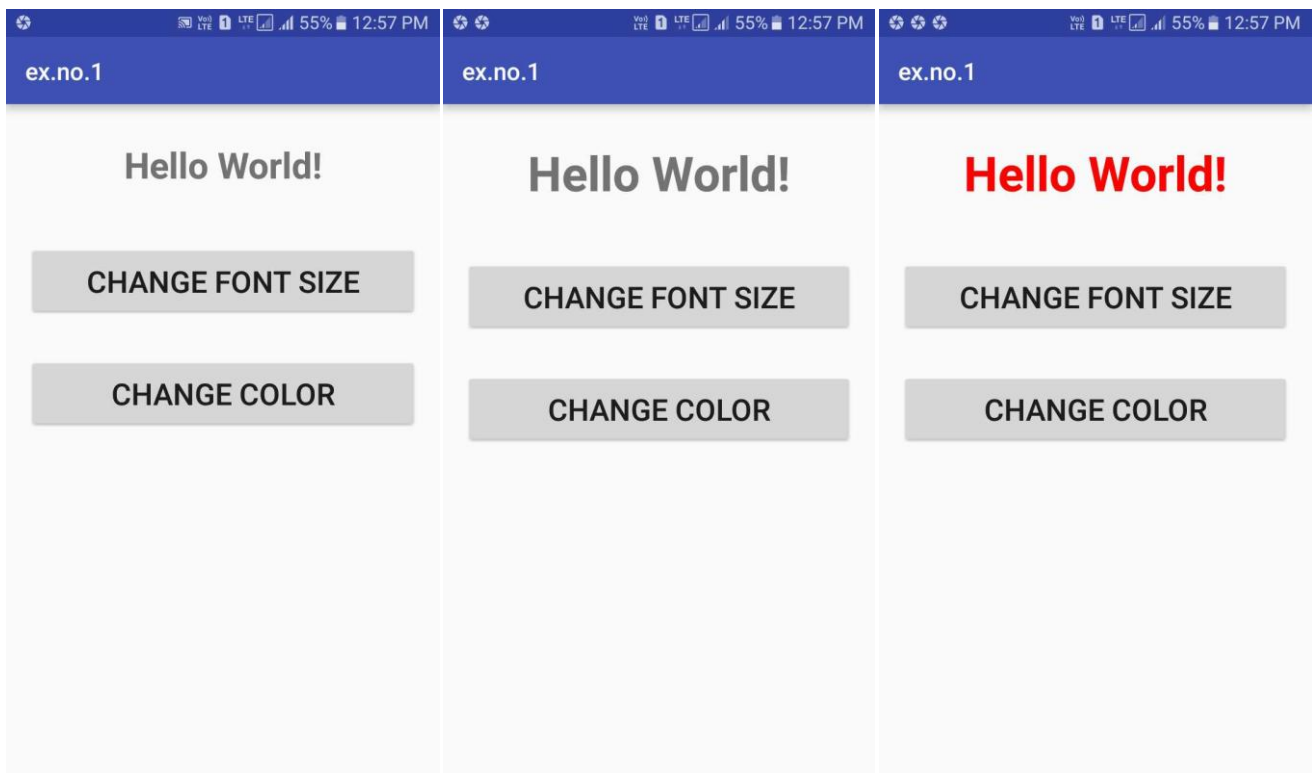
@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    final TextView t= (TextView) findViewById(R.id.textView);
    Button b1= (Button) findViewById(R.id.button1);
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t.setTextSize(font);
            font = font + 5;
            if (font == 50)
                font = 30;
        }
    });
    Button b2= (Button) findViewById(R.id.button2);
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            switch (ch) {
                case 1:
                    t.setTextColor(Color.RED);
                    break;
                case 2:
                    t.setTextColor(Color.GREEN);
                    break;
                case 3:
                    t.setTextColor(Color.BLUE);
                    break;
                case 4:
                    t.setTextColor(Color.CYAN);
                    break;
                case 5:
                    t.setTextColor(Color.YELLOW);
                    break;
                case 6:
                    t.setTextColor(Color.MAGENTA);
                    break;
            }
            ch++;
            if (ch == 7)

```

```
        ch = 1;
    }
    });
}
}
```

- So now the Coding part is also completed.
- Now run the application to see the output.

Output:



Result:

Thus a Simple Android Application that uses GUI components, Font and Colors is developed and executed successfully.

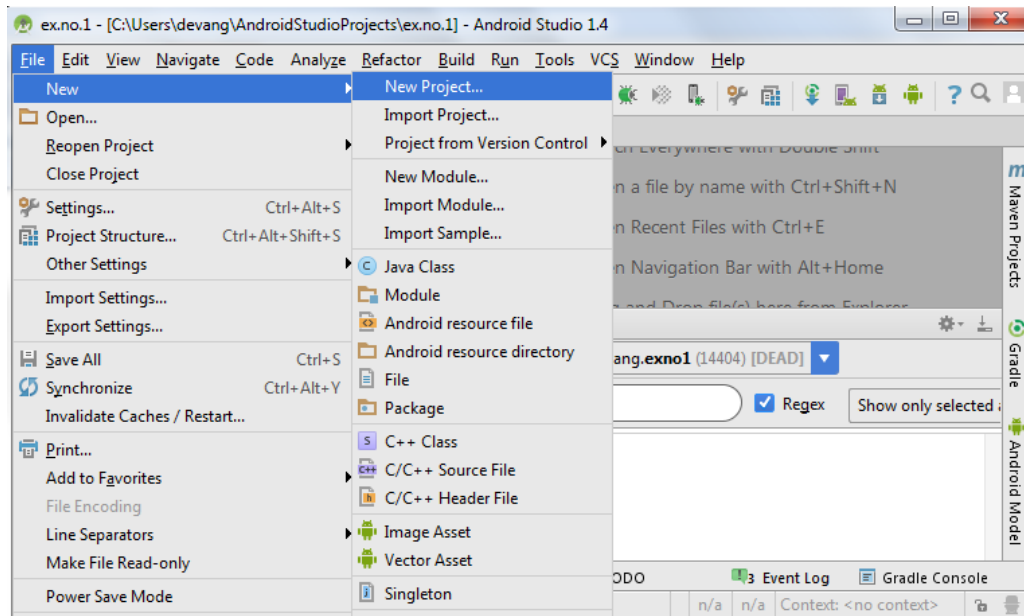
Date:

Aim:

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

Procedure:**Creating a New project:**

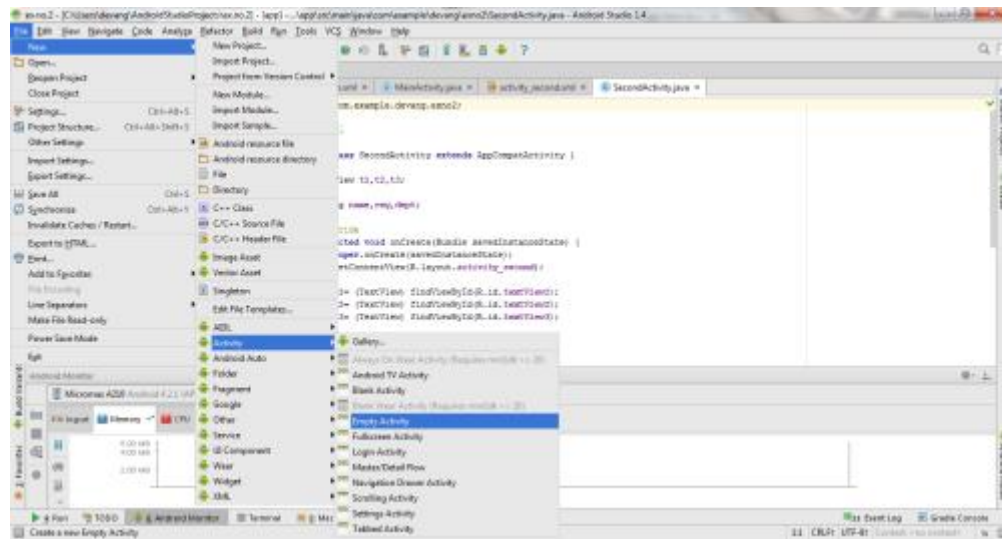
- Open Android Studio and then click on **File -> New -> New project**.



- 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.
- After completion it will look as given below.

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 as shown below.
- Then delete the code which is there and type the code as given below.

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

</RelativeLayout>

Designing Layout for Second Activity:

- Click on app -> res -> layout -> activity_second.xml.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for Activity_second.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>
```

- Now click on Design and your activity will look as given below.
- 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**.
- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
package com.example.exno2;

import android.content.Intent;
//import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
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<String> 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() {  
    @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);
```

```
    }
```

```
});
```

```
}
```

```
}
```

Java Coding for Second Activity:

- Click on **app -> java -> com.example.exno2 -> SecondActivity**.
- Then delete the code which is there and type the code as given below.

Code for SecondActivity.java:

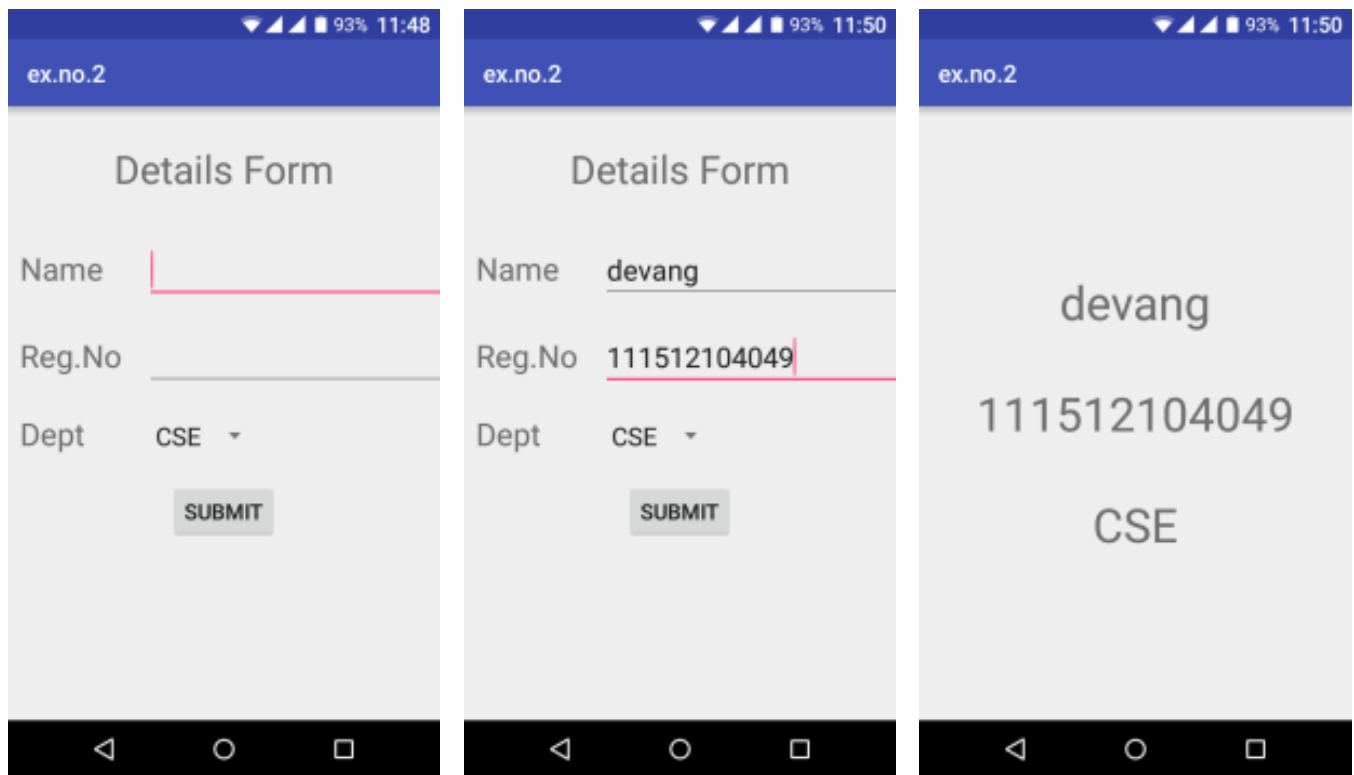
```
package com.example.exno2;

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);
        //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);
    }
}
```

- So now the Coding part of Second Activity is also completed.
- Now run the application to see the output.

Output:



Result:

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

Date:

Aim:

To develop a Simple Android Application that draws basic Graphical Primitives on the screen.

Procedure:**Creating a New project:**

- Open Android Studio and then click on **File -> New -> New project**.
- Then type the Application name as **"exno3"** 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.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/imageView" />

</RelativeLayout>
```

- Now click on Design and your application will look as given below.
- So now the designing part is completed.

Java Coding for the Android Application:

- Click on **app -> java -> com.example.exno3 -> MainActivity**.
- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
package com.example.exno3;

import android.app.Activity;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;

public class MainActivity extends Activity
{
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        //Creating a Bitmap
        Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);

        //Setting the Bitmap as background for the ImageView
        ImageView i = (ImageView) findViewById(R.id.imageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));

        //Creating the Canvas Object
        Canvas canvas = new Canvas(bg);

        //Creating the Paint Object and set its color & TextSize
        Paint paint = new Paint();
        paint.setColor(Color.BLUE);
        paint.setTextSize(50);

        //To draw a Rectangle
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);

        //To draw a Circle
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);
```



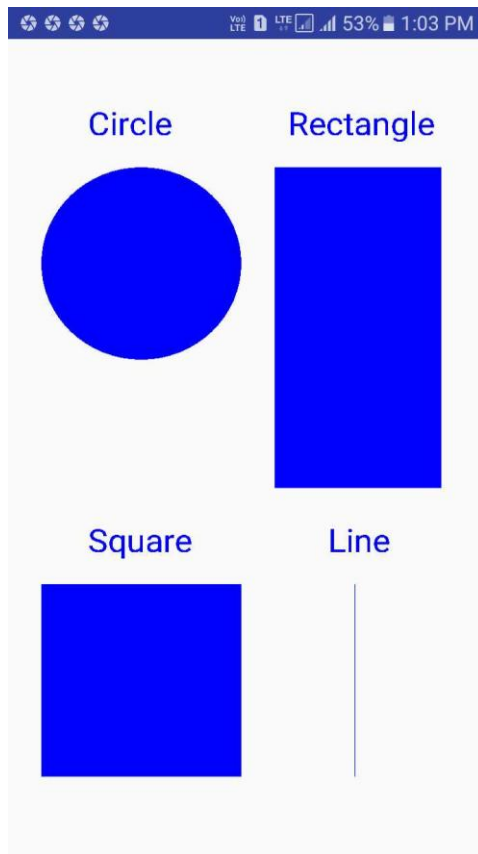
```
//To draw a Square  
canvas.drawText("Square", 120, 800, paint);  
canvas.drawRect(50, 850, 350, 1150, paint);
```

```
//To draw a Line  
canvas.drawText("Line", 480, 800, paint);  
canvas.drawLine(520, 850, 520, 1150, paint);
```

```
}  
}
```

- So now the Coding part is also completed.
- Now run the application to see the output.

Output:



Result:

Thus a Simple Android Application that draws basic Graphical Primitives on the screen is developed and executed successfully.