

Week 5:

Design an application that draws basic graphical primitives: line, circle, square, rectangle etc., on the screen.

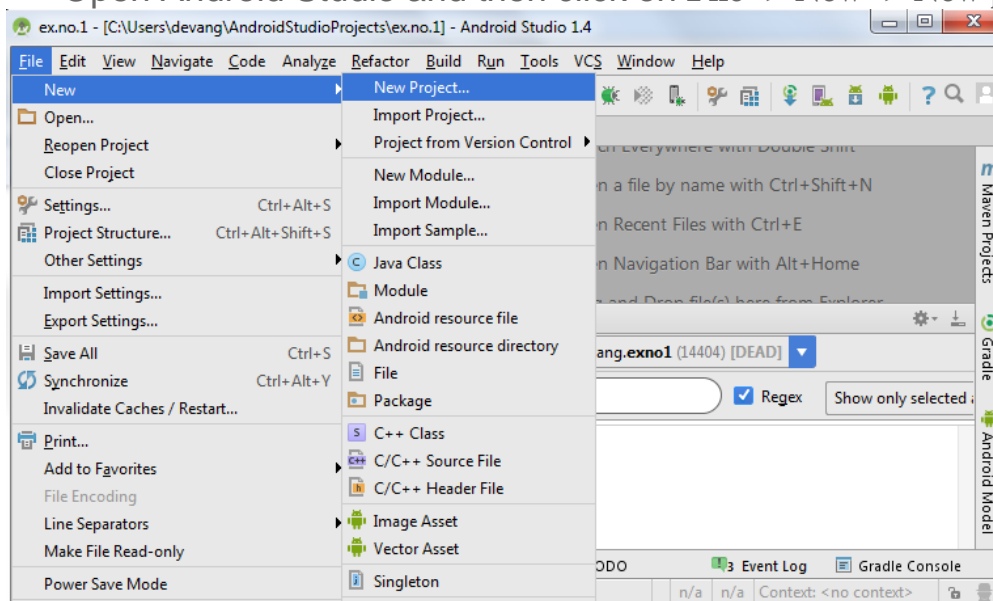
Aim:

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 “**week5**” and click **Next**.

Create New Project

New Project

Android Studio

Configure your new project

Application name:

Company Domain:

Package name:

Project location:

The application name for most apps begins with an uppercase letter

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

Create New Project

Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

☒ Phone and Tablet

Minimum SDK:

☐ Wear

Minimum SDK:

☐ TV

Minimum SDK:

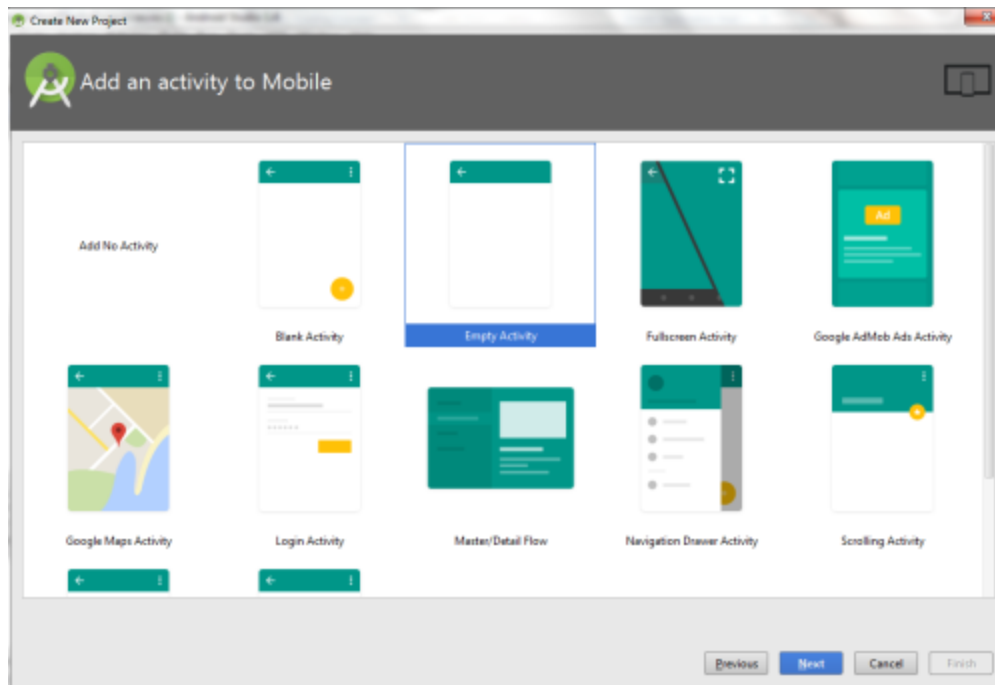
☐ Android Auto

☐ Glass (Not Installed)

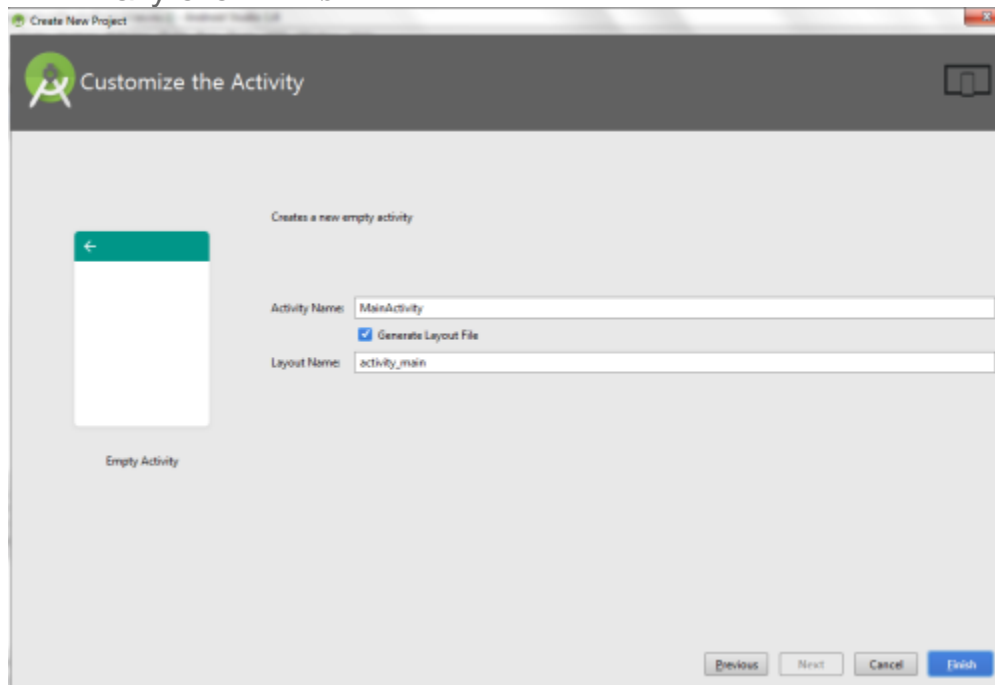
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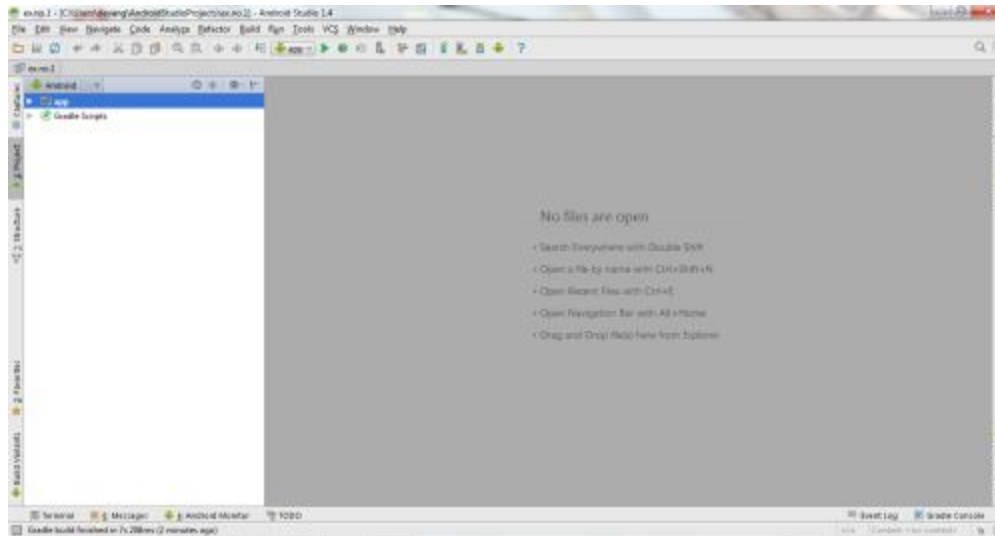
- Then select the **Empty Activity** and click **Next**.



- Finally click **Finish**.

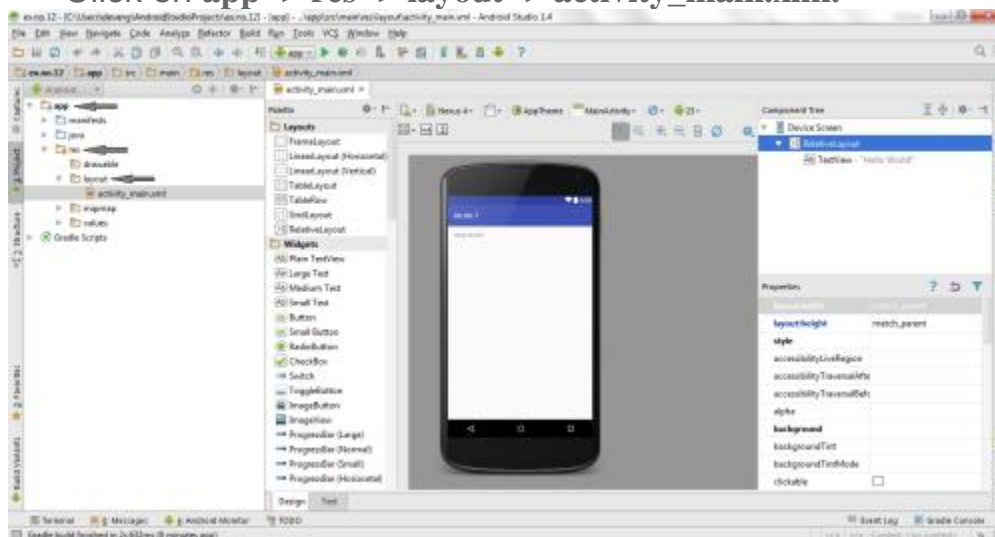


- It will take some time to build and load the project.
- After completion it will look as given below.

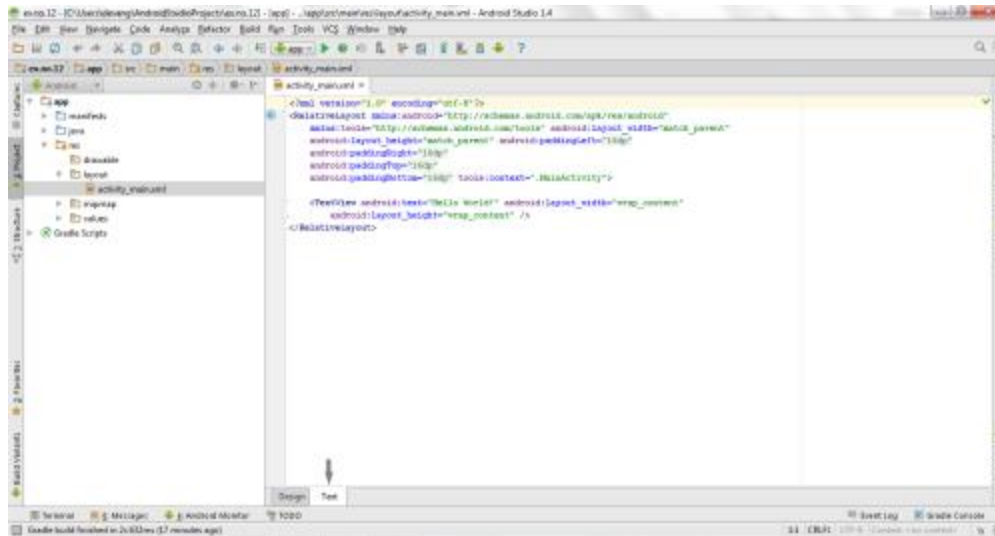


Designing layout for the Android Application:

- 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.

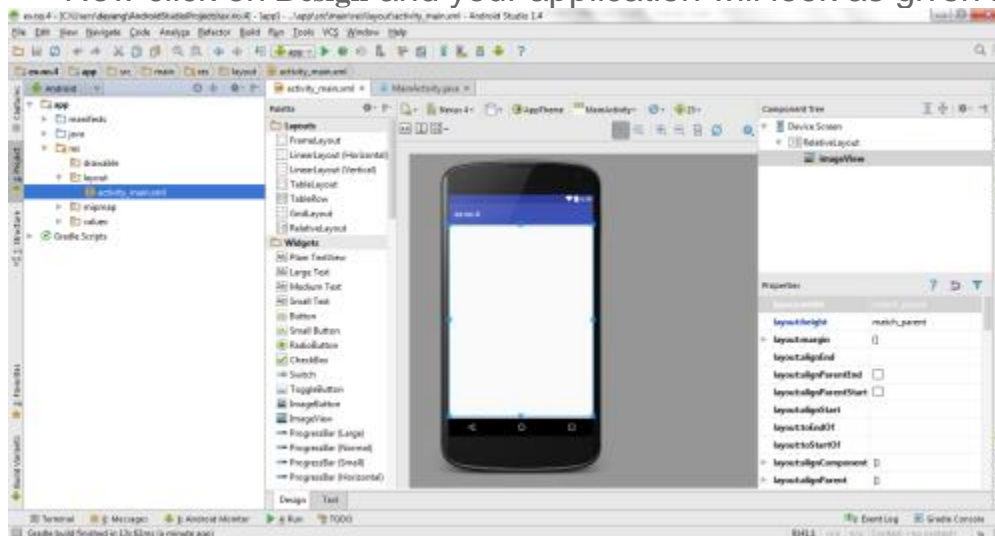
Code for Activity_main.xml:

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     android:layout_width="match_parent"
4     android:layout_height="match_parent">
5
6     <ImageView
7         android:layout_width="match_parent"
8         android:layout_height="match_parent"
9         android:id="@+id/imageView" />
10 </RelativeLayout>

```

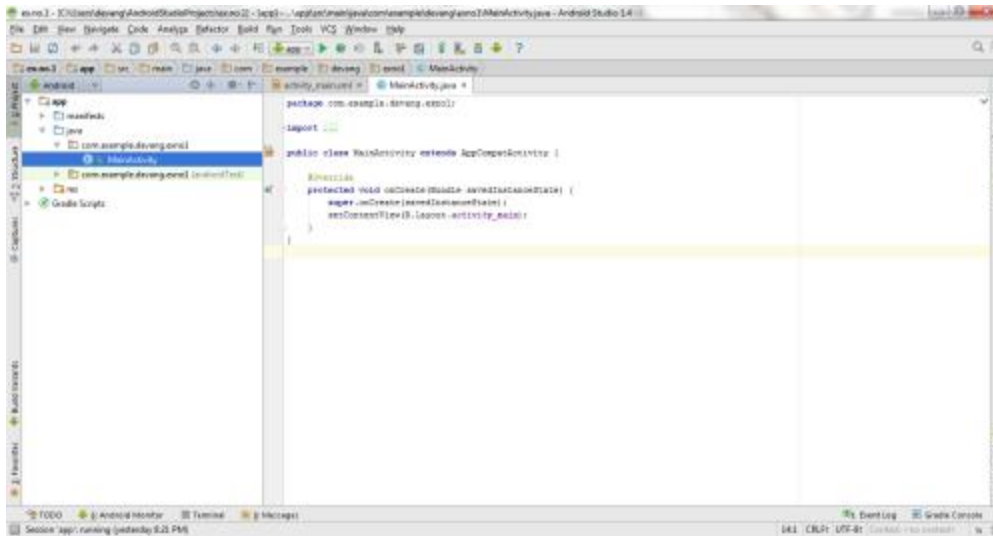
- Now click on **Design** and your application will look as given below.



- So now the designing part is completed.

Java Coding for the Android Application:

- Click on app -> java -> com.example.exno4 -> MainActivity.



- Then delete the code which is there and type the code as given below.
Code for MainActivity.java:

?

```

1  package com.example.week5;
2
3  import android.app.Activity;
4  import android.graphics.Bitmap;
5  import android.graphics.Canvas;
6  import android.graphics.Color;
7  import android.graphics.Paint;
8  import android.graphics.drawable.BitmapDrawable;
9  import android.os.Bundle;
10 import android.widget.ImageView;
11
12 public class MainActivity extends Activity
13 {
14     @Override
15     public void onCreate(Bundle savedInstanceState)
16     {
17         super.onCreate(savedInstanceState);
18         setContentView(R.layout.activity_main);
19
20         //Creating a Bitmap
21         Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);
22
23         //Setting the Bitmap as background for the ImageView
24         ImageView i = (ImageView) findViewById(R.id.imageView);
25         i.setBackgroundDrawable(new BitmapDrawable(bg));
26
27         //Creating the Canvas Object
28         Canvas canvas = new Canvas(bg);
29
30         //Creating the Paint Object and set its color & TextSize
31         Paint paint = new Paint();
32         paint.setColor(Color.BLUE);
33         paint.setTextSize(50);

```

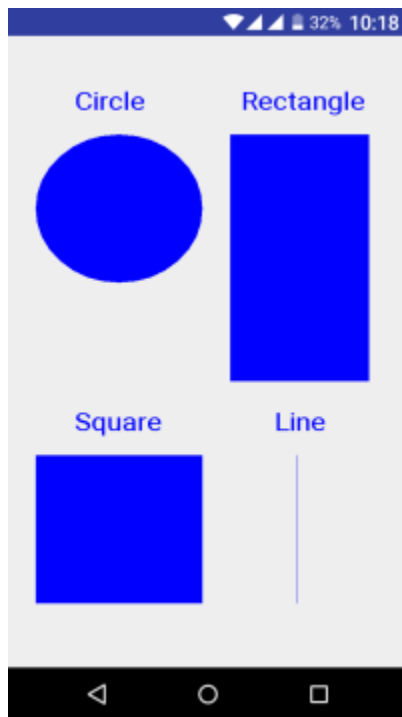
```

34
35     //To draw a Rectangle
36     canvas.drawText("Rectangle", 420, 150, paint);
37     canvas.drawRect(400, 200, 650, 700, paint);
38
39     //To draw a Circle
40     canvas.drawText("Circle", 120, 150, paint);
41     canvas.drawCircle(200, 350, 150, paint);
42
43     //To draw a Square
44     canvas.drawText("Square", 120, 800, paint);
45     canvas.drawRect(50, 850, 350, 1150, paint);
46
47     //To draw a Line
48     canvas.drawText("Line", 480, 800, paint);
49     canvas.drawLine(520, 850, 520, 1150, paint);
50 }
51 }

```

- 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.