Ex.No:10 Design an application that draws basic graphical primitives on the screen.

AIM:

To create and design an android application that draws basic graphical primitives on the screen using Android Studio.

EQUIPMENTS REQUIRED:

Android Studio(Min. required Artic Fox)

ALGORITHM:

Step 1: Open Android Stdio and then click on File -> New -> New project.

Step 2: Then type the Application name as "graphical" and click Next.

Step 3: Then select the Minimum SDK as shown below and click Next.

Step 4: Then select the Empty Activity and click Next. Finally click Finish.

Step 5: Design layout in activity_main.xml.

Step 6: Draw basic object details give in MainActivity file.

Step 7: Save and run the application.

PROGRAM:

```
/*
Program to create and design an android application that draws basic graphical primitives
on the screen.
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Registeration Number : 212221230034
*/
```

MainActivity.java:

```
package com.ranjith.grachical_primitives;

import androidx.appcompat.app.AppCompatActivity;
```

```java
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 AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Bitmap bg = Bitmap.createBitmap(720, 1280,
                Bitmap.Config.ARGB_8888);
        ImageView i = (ImageView) findViewById(R.id.ImageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));
        Canvas canvas = new Canvas(bg);
        Paint paint = new Paint();
        paint.setColor(Color.GRAY);
        paint.setTextSize(50);
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);
        canvas.drawText("Square", 120, 800, paint);
        canvas.drawRect(50, 850, 350, 1150, paint);
        canvas.drawText("Line", 480, 800, paint);
        canvas.drawLine(520, 850, 520, 1150, paint);

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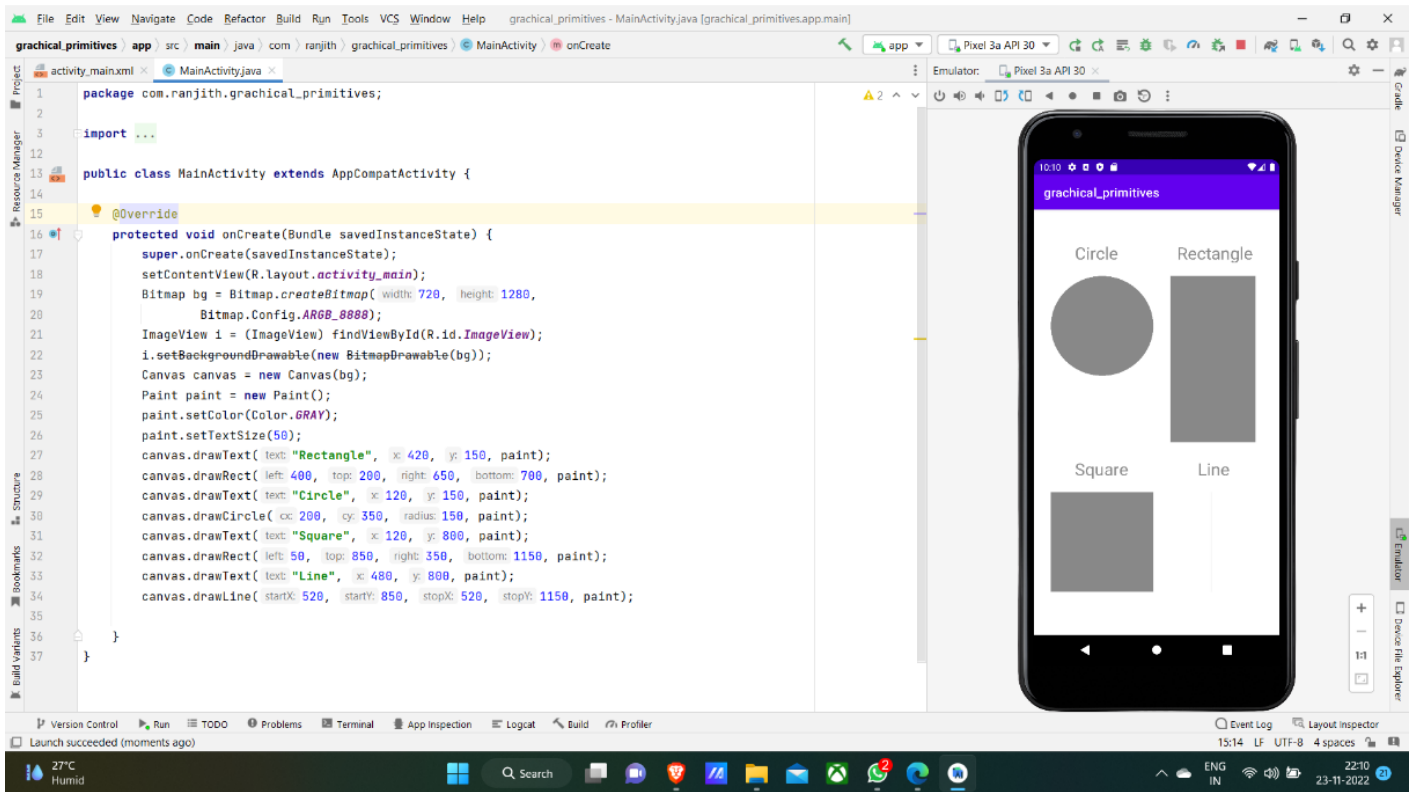
activity_main.xml:
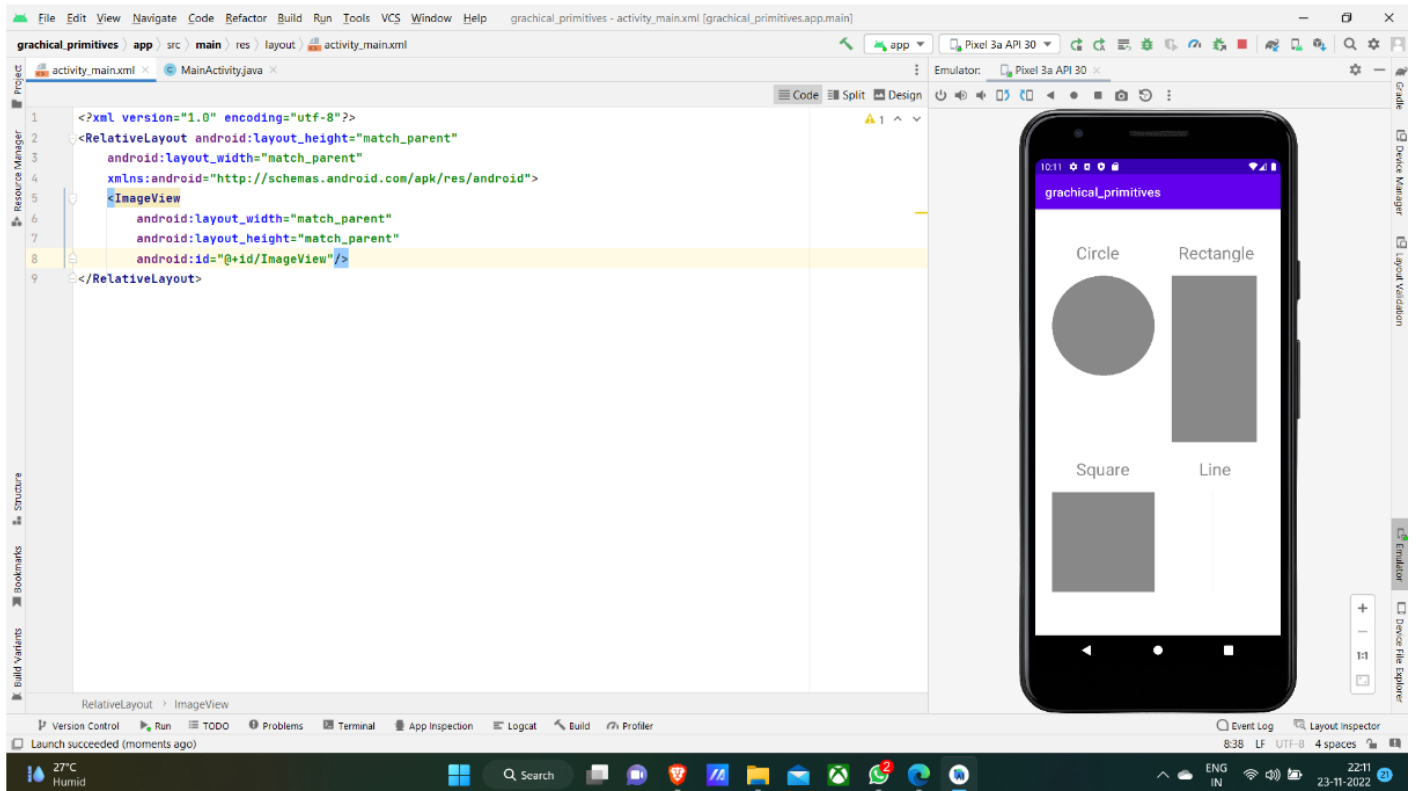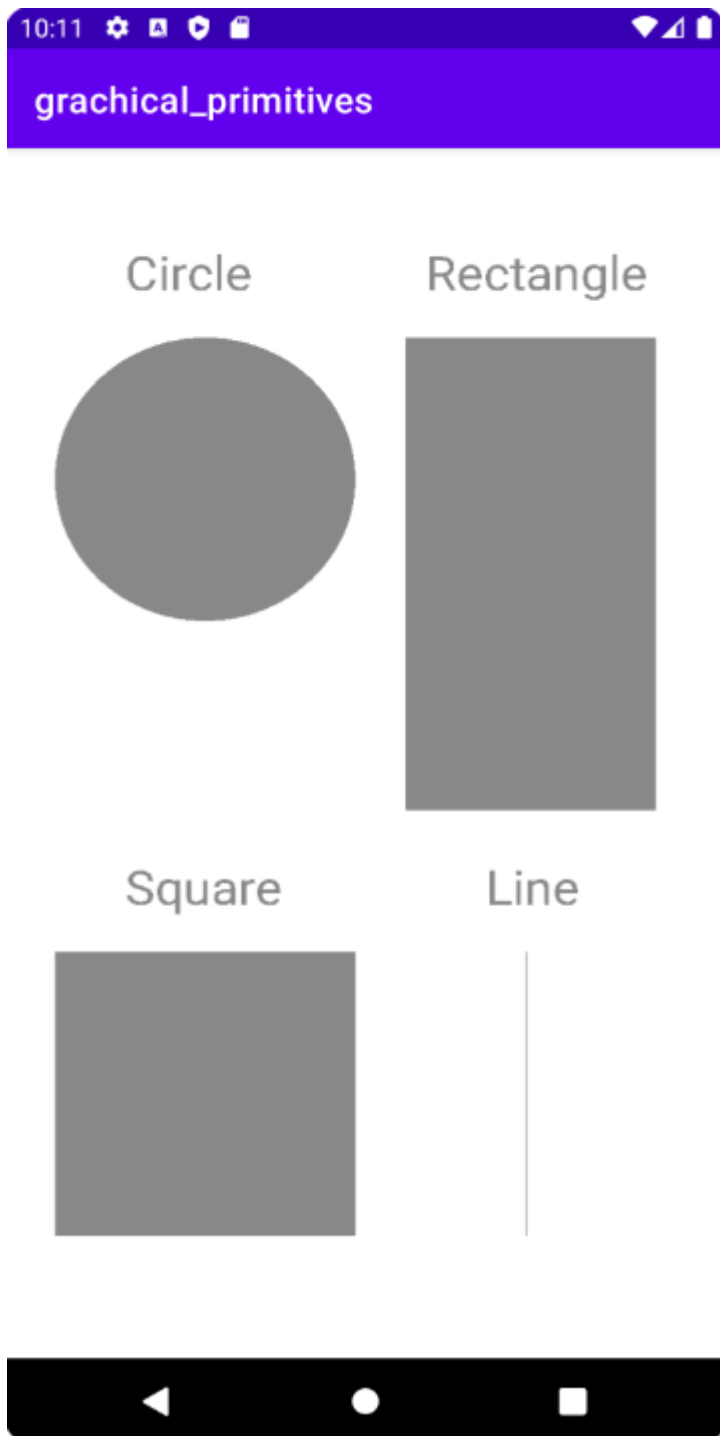
```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
    android:layout_width="match_parent"
    xmlns:android="http://schemas.android.com/apk/res/android">
    <ImageView
        android:layout_width="match_parent"
        android:layout_height="match_parent"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

```java
package com.ranjith.grachical_primitives;

import ...

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Bitmap bg = Bitmap.createBitmap( width: 720, height: 1280,
                Bitmap.Config.ARGB_8888);
        ImageView i = (ImageView) findViewById(R.id.ImageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));
        Canvas canvas = new Canvas(bg);
        Paint paint = new Paint();
        paint.setColor(Color.GRAY);
        paint.setTextSize(50);
        canvas.drawText( text: "Rectangle", x: 420, y: 150, paint);
        canvas.drawRect( left: 400, top: 200, right: 650, bottom: 700, paint);
        canvas.drawText( text: "Circle", x: 120, y: 150, paint);
        canvas.drawCircle( cx: 200, cy: 350, radius: 150, paint);
        canvas.drawText( text: "Square", x: 120, y: 800, paint);
        canvas.drawRect( left: 50, top: 850, right: 350, bottom: 1150, paint);
        canvas.drawText( text: "Line", x: 480, y: 800, paint);
        canvas.drawLine( startX: 520, startY: 850, stopX: 520, stopY: 1150, paint);

    }
}
```

RESULT

Thus a Simple Android Application to create and design an android application that draws basic graphical primitives on the screen using Android Studio is developed and executed successfully.