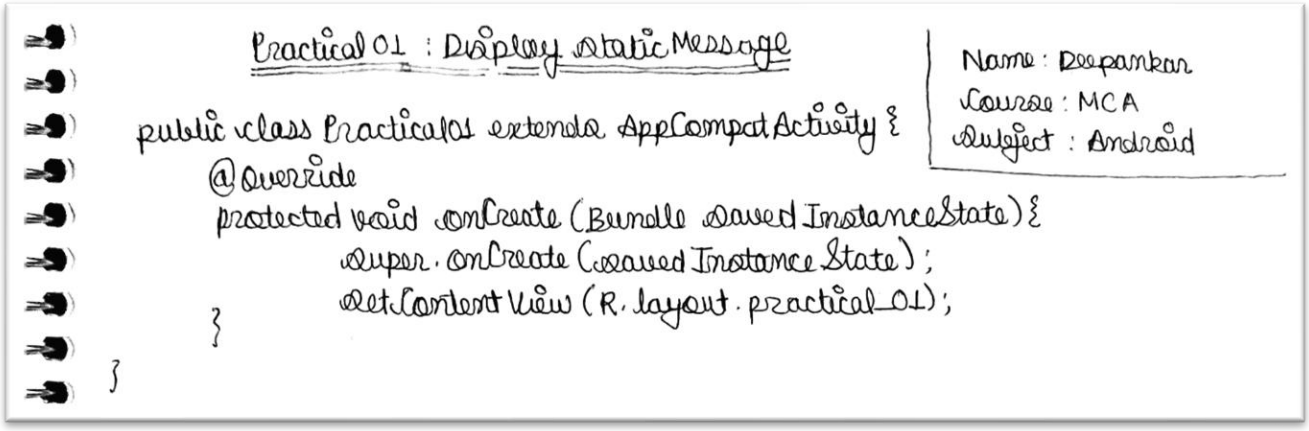
LAB ASSIGNMENT

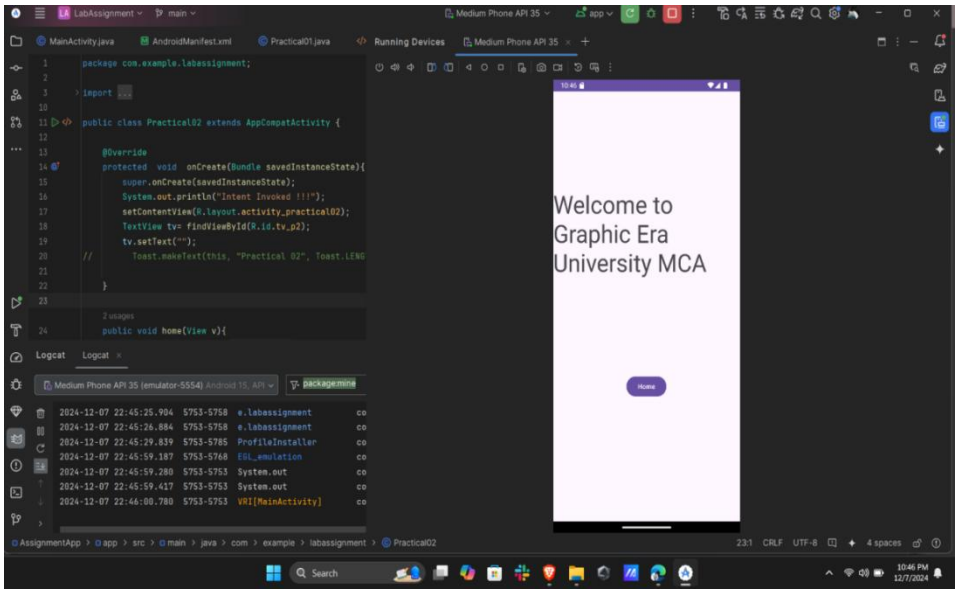
Name: Deepankar Sharma
Student ID: 233512013

Course Code: OMC308 **Last Date of Submission: 31/12/24**
Course Title: Mobile Application Development Laboratory **Maximum Marks: 30**

Program 1

Create an Android application that displays the message: *"Welcome to Graphic Era University MCA"* on the screen.





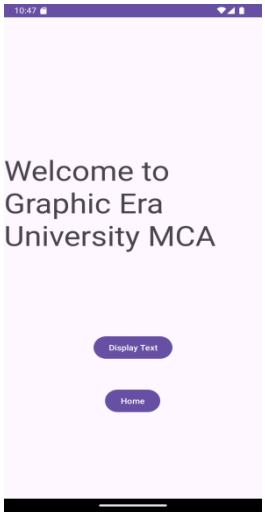
Practical 01

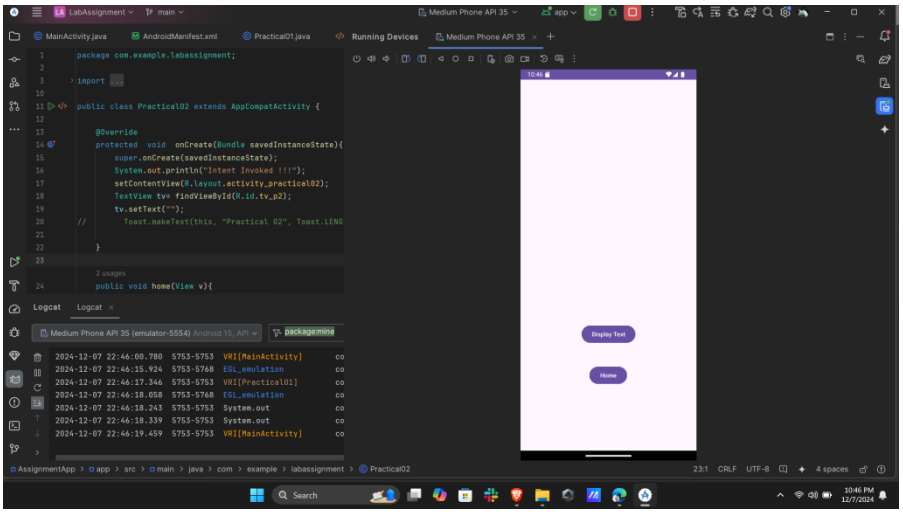
Program 2

Create an Android application that displays the message:
"Welcome to Graphic Era University - MCA" when a button is clicked.

Practical 02 : Display Message on Button Click

```
public class Practical02 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle b) {
        super.onCreate(b);
        setContentView(R.layout.practical_02);
    }
    public void displayMessage(View v) {
        TextView tv = findViewById(R.id.tv);
        tv.setText("Welcome to Graphic Era University MCA");
    }
}
```





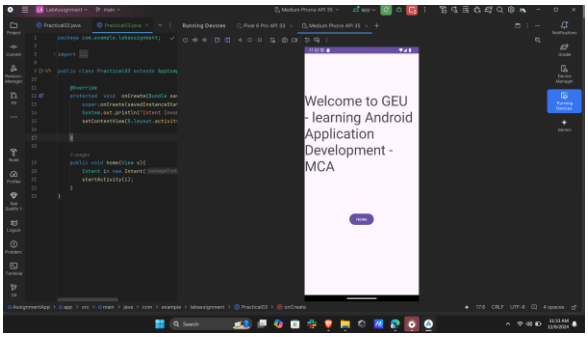
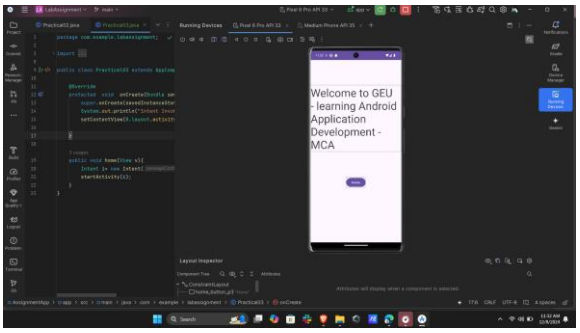
Practical 02

Program 3

Create an Android application to display the message:
"Welcome to GEU - learning Android Application Development - MCA"
and execute the application using different emulators.

```
Practical 03 : Message on different Emulators

public class Practical03 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle b) {
        super.onCreate(b);
        setContentView(R.layout.practical_03);
    }
}
```

	
Medium Phone API	Pixel 6 Pro

Program 4

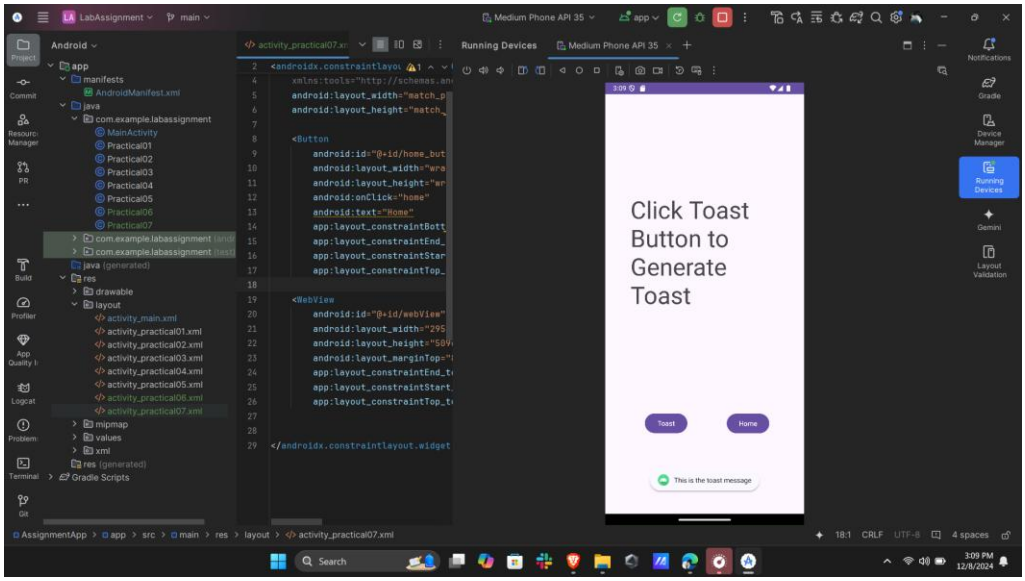
Illustrate with a suitable example the use of **Toast** to display a message in an Android application.

[The message display should wait for a long time]

Practical 04 : Toast Message

Name : Deepankar Sharma
Course : MCA
Student ID : 2335122013

```
public class Practical04 extends AppCompatActivity{
    @Override
    protected void onCreate(Bundle b){
        super.onCreate(b);
        setContentView(R.layout.activity_practical04);
    }
    public void toast(View v){
        Toast.makeText(this, "This is a toast message",
                Toast.LENGTH_LONG).show();
    }
}
```

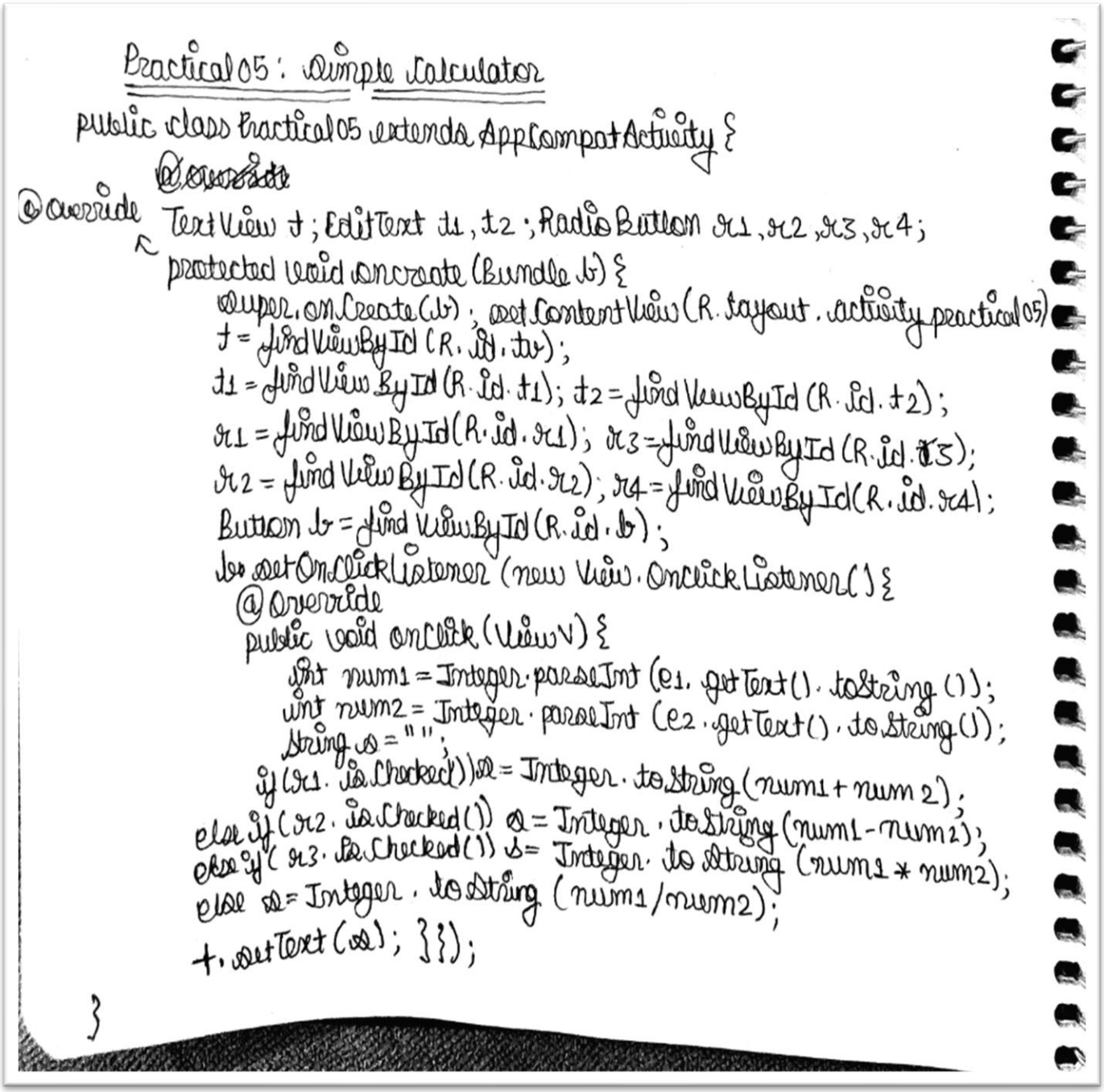


Practical 04

Program 5

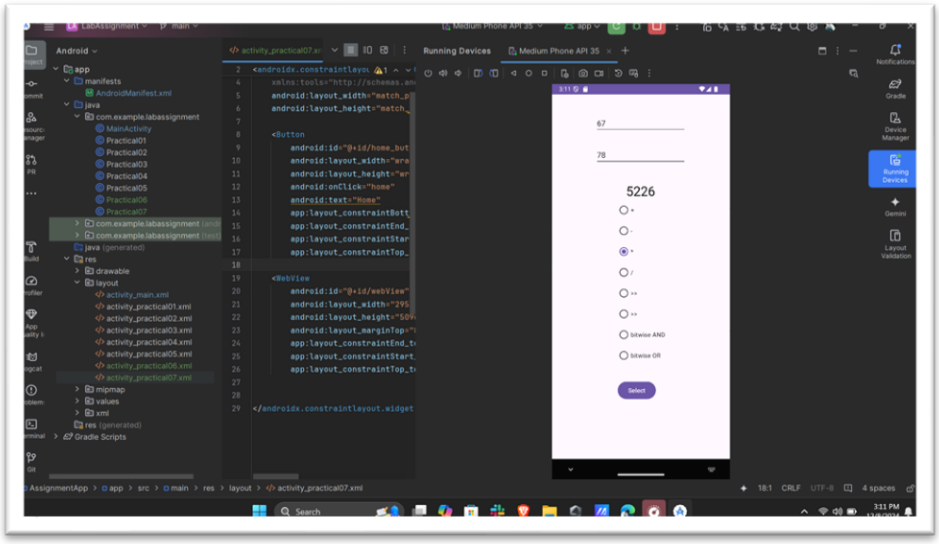
Create an Android application for designing a simple calculator with the following basic functionalities:Addition Subtraction , Multiplication, Division

Use controls like **Buttons**, **TextViews**, and **EditTexts**.



Practical 05 : Simple Calculator

```
public class Practical05 extends AppCompatActivity {
@Override
TextView t; EditText t1, t2; RadioButton r1, r2, r3, r4;
protected void onCreate(Bundle b) {
    super.onCreate(b); setContentView(R.layout.activity_practical05);
    t = findViewById(R.id.tv);
    t1 = findViewById(R.id.t1); t2 = findViewById(R.id.t2);
    r1 = findViewById(R.id.r1); r3 = findViewById(R.id.r3);
    r2 = findViewById(R.id.r2); r4 = findViewById(R.id.r4);
    Button b = findViewById(R.id.b);
    b.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
          int num1 = Integer.parseInt(e1.getText().toString());
          int num2 = Integer.parseInt(e2.getText().toString());
          String s = "";
          if(r1.isChecked()) s = Integer.toString(num1 + num2);
    else if(r2.isChecked()) s = Integer.toString(num1 - num2);
    else if(r3.isChecked()) s = Integer.toString(num1 * num2);
    else s = Integer.toString(num1/num2);
    t.setText(s); }});
}
```

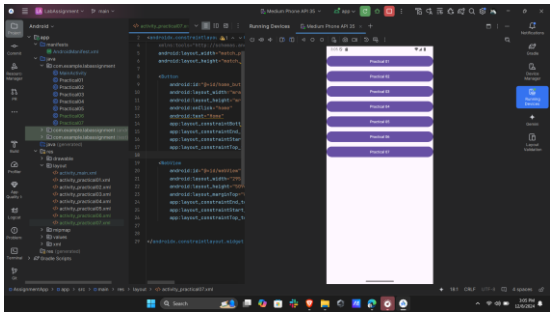


Program 6

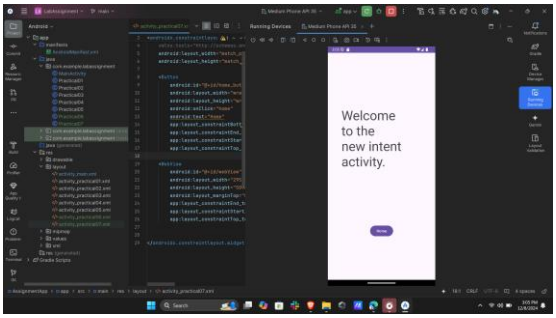
Illustrate with a suitable example the use of **Intents** for linking activities.
[At least two activities should be used]

Practical 06 : Using Intents to Link Activities

```
public class Practical06 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle b){
        super.onCreate(b);
        setContentView(R.layout.practical_06);
    }
    public void home(View v){
        Intent i = new Intent(this, MainActivity.class);
        startActivity(i);
    }
}
```



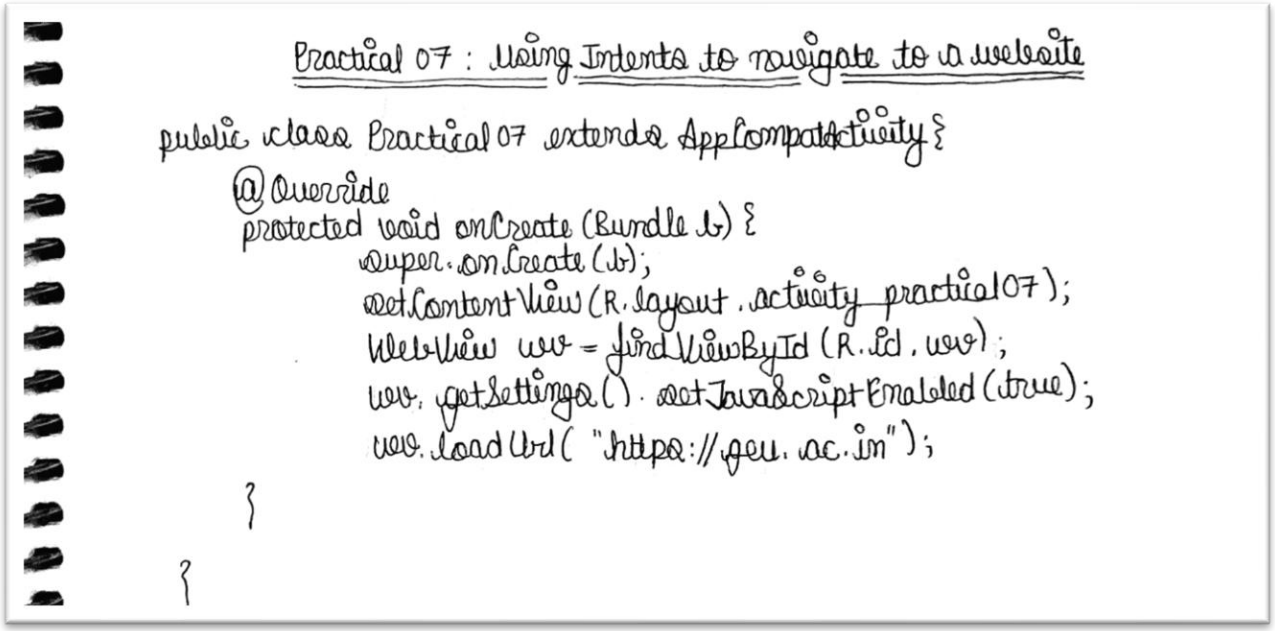
Main Activity



Intent Activity

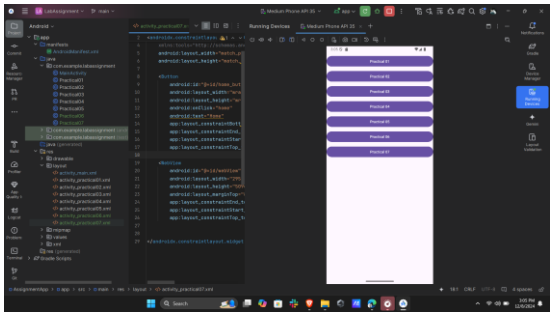
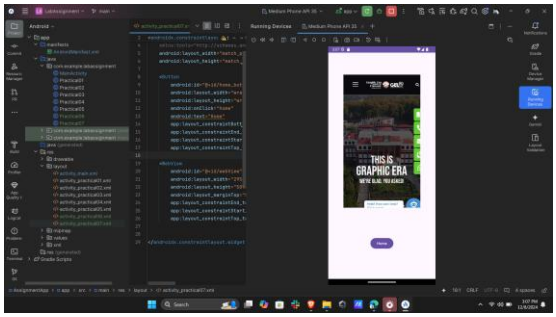
Program 7

Illustrate with a suitable example the use of **Intents** for navigating to a website.
[Navigate to Graphic Era University Website]



Practical 07 : Using Intents to navigate to a website

```
public class Practical07 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle b) {
        super.onCreate(b);
        setContentView(R.layout.activity_practical07);
        WebView wv = findViewById(R.id.wv);
        wv.getSettings().setJavaScriptEnabled(true);
        wv.loadUrl("https://geu.ac.in");
    }
}
```

 Main Activity	 Intent Activity

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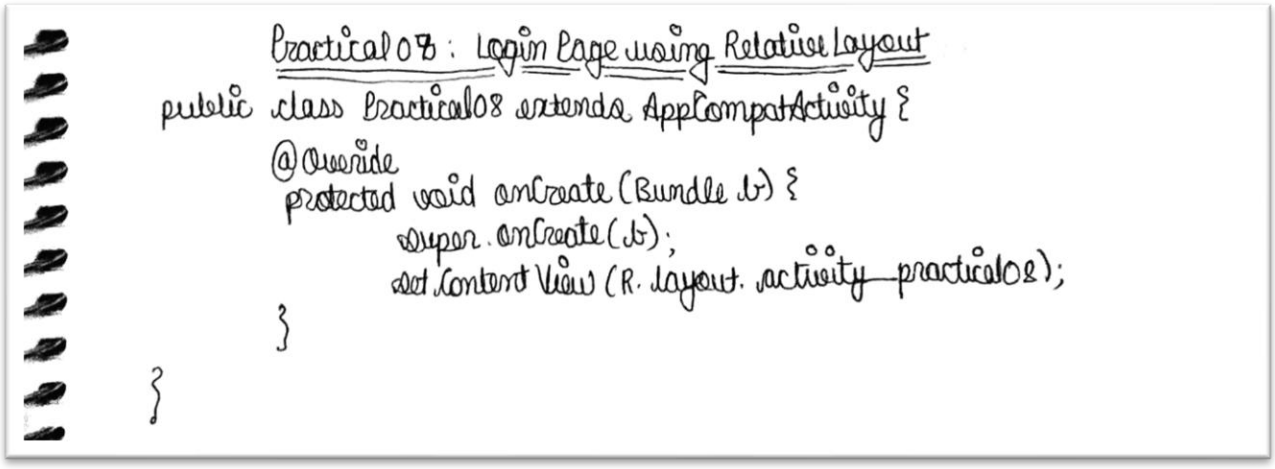
Program 8

Create an Android application that demonstrates the use of **Relative Layout** in Android by using appropriate views to create a login form.



Practical 08 : Login Page using Relative Layout

```
public class Practical08 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle b) {
        super.onCreate(b);
        setContentView(R.layout.activity_practical08);
    }
}
```

XML

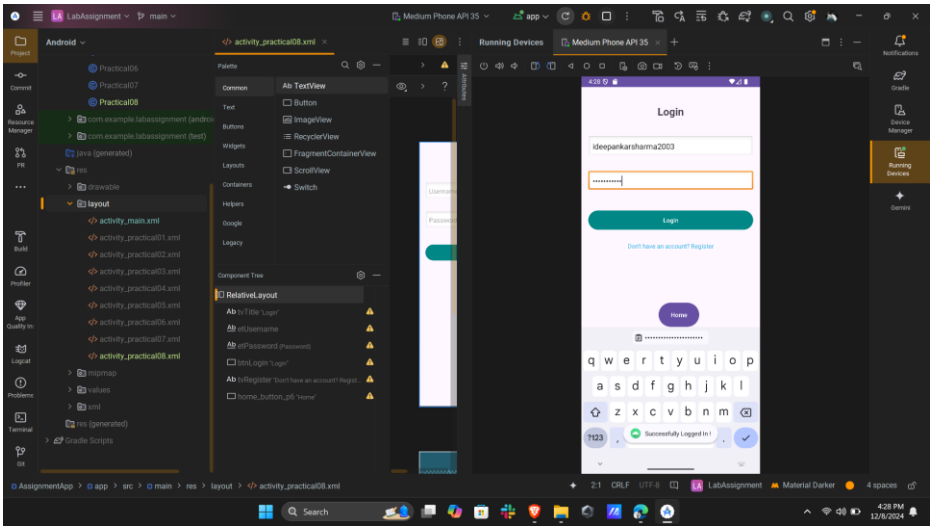
```
<RelativeLayout>
    <TextView
        android:id="@+id/tv"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login" />

    <EditText
        android:id="@+id/et1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/tv"
        android:hint="username" />

    <EditText
        android:id="@+id/et2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/et1"
        android:hint="password" />

    <Button
        android:id="@+id/b"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/et2"
        android:text="Login" />

</RelativeLayout>
```



Program 9

Create an Android application that demonstrates the use of appropriate layouts and views to create a Registration Form *[For intercollege sports events]* and display the message: *"Registration is successful"* on the click of a Submit button.

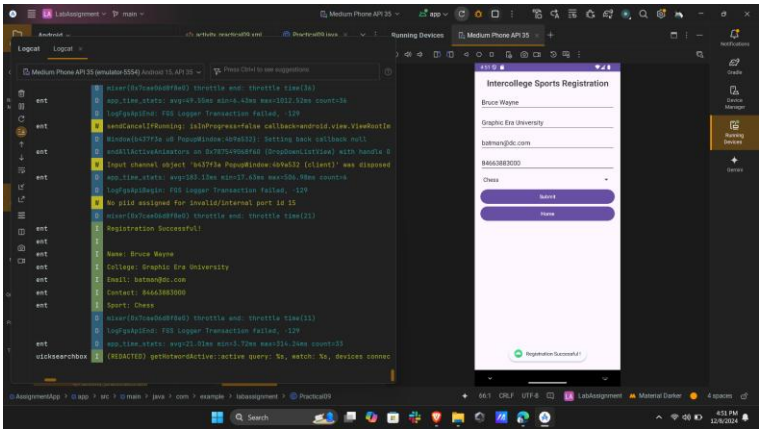
```
Task 09 : Registration Form

public class Practical09 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle b) {
        super.onCreate(b);
        setContentView(R.layout.activity_practical09);
        EditText etName = findViewById(R.id.name);
        EditText etCollege = findViewById(R.id.college);
        EditText etEmail = findViewById(R.id.email);
        EditText etContact = findViewById(R.id.contact);
        Button b = findViewById(R.id.b);
        Spinner s = findViewById(R.id.s);
        ArrayAdapter<CharSequence> adapter = ArrayAdapter.
                                    createFromResource
        createFromResource(this, R.array.sports_array,
                android.R.layout.simple_spinner_item);
        adapter.setDropDownViewResource(android.R.layout.
                                    simple_spinner_dropdown_item);
        spinner s.setAdapter(adapter);

        b.setOnClickListener(new View.OnClickListener(){

            @Override
            public void onClick(View v){
                String name = etName.getText().toString();
                String college = etCollege.getText().toString();
                String email = etEmail.getText().toString();
                String sport = etspinner.getText().toString;
                : // logic to save in SQLite
                Toast.makeText(Practical09.this, "Registration Success!",
                        Toast.LENGTH_LONG).show();
            }
        });
    }
}
```



Program 10

Illustrate with a suitable example the use of graphics for displaying the following shapes:

1. Circle 2. Triangle 3. Rectangle

Practical 010 : canvas

```
public class ShapeView extends View {
    private Paint paint;
    public ShapeView(Context context, AttributeSet attrs) {
        super(context, attrs);
        paint = new Paint();
        paint.setAntiAlias(true);
    }

    @Override
    protected void onDraw(Canvas c) {
        super.onDraw(c); Canvas canvas = c;

        paint.setColor(blue);
        canvas.drawCircle(200, 200, 100, paint);

        paint.setColor(green);
        canvas.drawRect(50, 350, 350, 550, paint);

        paint.setColor(red);
        Path p = new Path();
        p.moveTo(600, 350);
        p.lineTo(500, 550);
        p.lineTo(700, 550);
        p.close();
        c.drawPath(p, paint);

    }
}
```