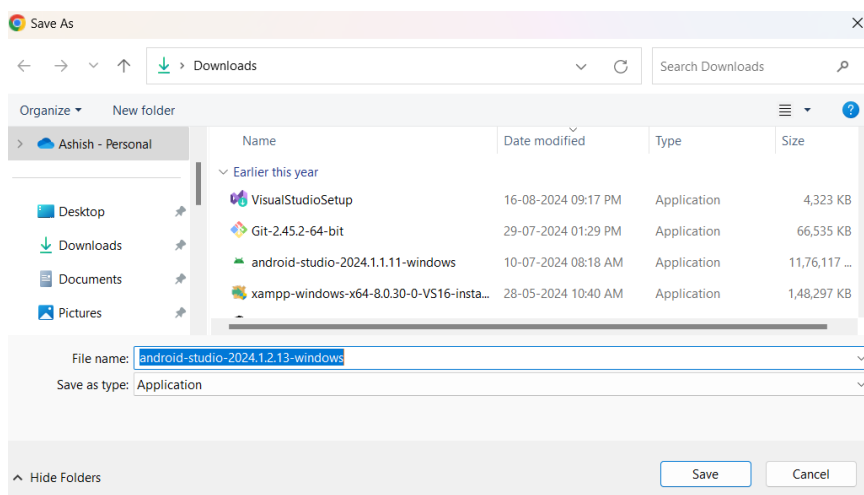
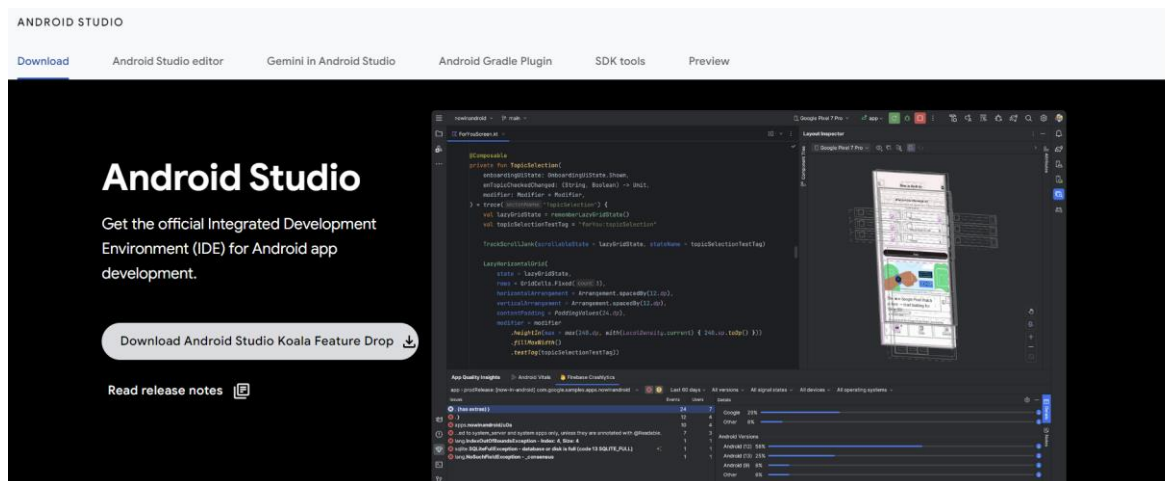


### Problem Statement 1: Show step by step procedure to install android studio.

#### Steps:

1. Go to the official Android Studio website
2. Click Download Android Studio
3. Read and agree to the terms and conditions
4. Click Download Android Studio for Windows
5. Click Save File to start downloading
6. Open the downloaded file and run it
7. If prompted, click Yes to allow the installation to make changes to your computer
8. Follow the Setup Wizard in Android Studio
9. Install any recommended SDK packages

#### Output:



**Problem Statement 2:** Create a GitHub repository and push your project into the repository.

**Steps:**

### 1. Create a New GitHub Repository

1. Go to [GitHub](https://github.com) and log in to your account.
2. Click on the + icon in the top-right corner and select **New repository**.
3. Give your repository a name and description (optional).
4. Leave it public or private depending on your choice.
5. Click **Create repository**.

You will now have an empty GitHub repository with a URL like:  
`https://github.com/your-username/your-repo-name.git`

### 2. Open Your Project in Android Studio

1. Open Android Studio.
2. Open your existing Android project.
3. Make sure that **Git** is initialized in the project. Android Studio usually does this automatically when you create a new project. If not, you'll have to initialize it.

### 3. Initialize Git (if not already initialized)

1. Open **Terminal** inside Android Studio or use your system terminal.
2. Navigate to your project folder and run the following command to initialize Git (if Git is not initialized):

```
git init
```

### 4. Add Your Files to Git

1. To add all your project files to the Git staging area, use:

```
git add .
```

2. Then commit the files:

```
git commit -m "Initial commit"
```

### 5. Add Remote GitHub Repository

1. Connect your local Git repository to the remote GitHub repository. Use the URL of the GitHub repository you created earlier:

```
git remote add origin https://github.com/your-username/your-repo-name.git
```

2. Verify that the remote URL has been added:

```
git remote -v
```

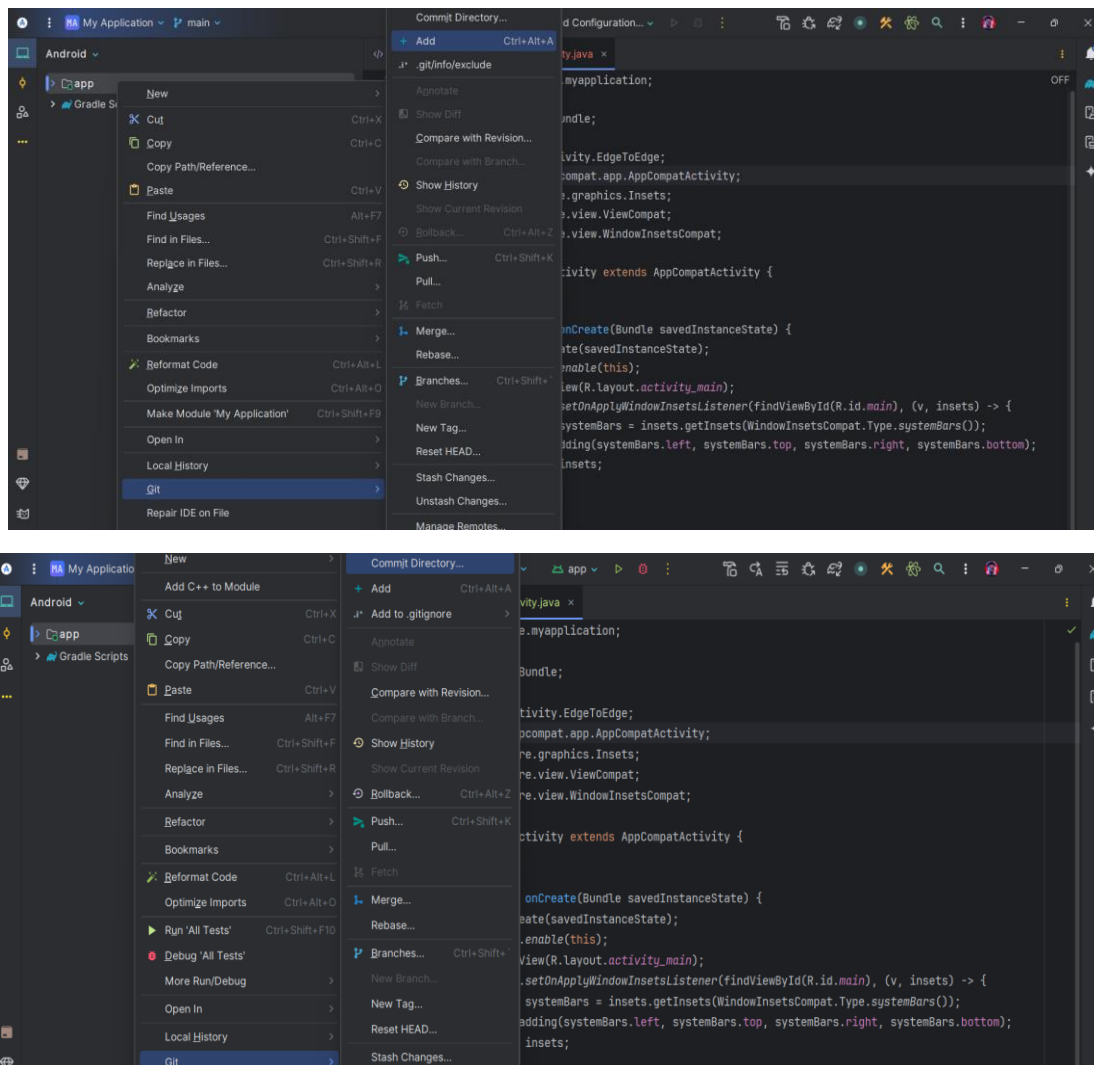
## 6. Push Your Project to GitHub

1. Push your project to the GitHub repository:  
`git push -u origin master`
2. If you are asked for your GitHub credentials, enter your username and password (or personal access token if you've enabled two-factor authentication).

## 7. Check Your Repository on GitHub

- Go to your GitHub repository URL in the browser, and you should see all your project files.

### Output:

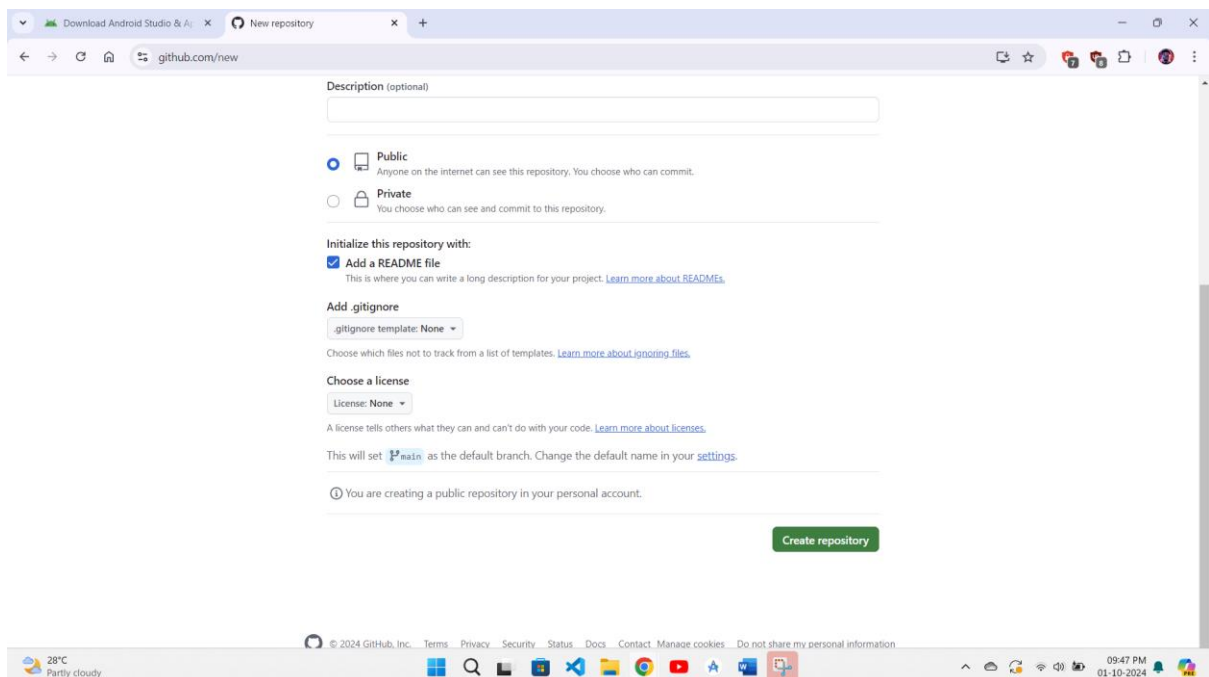
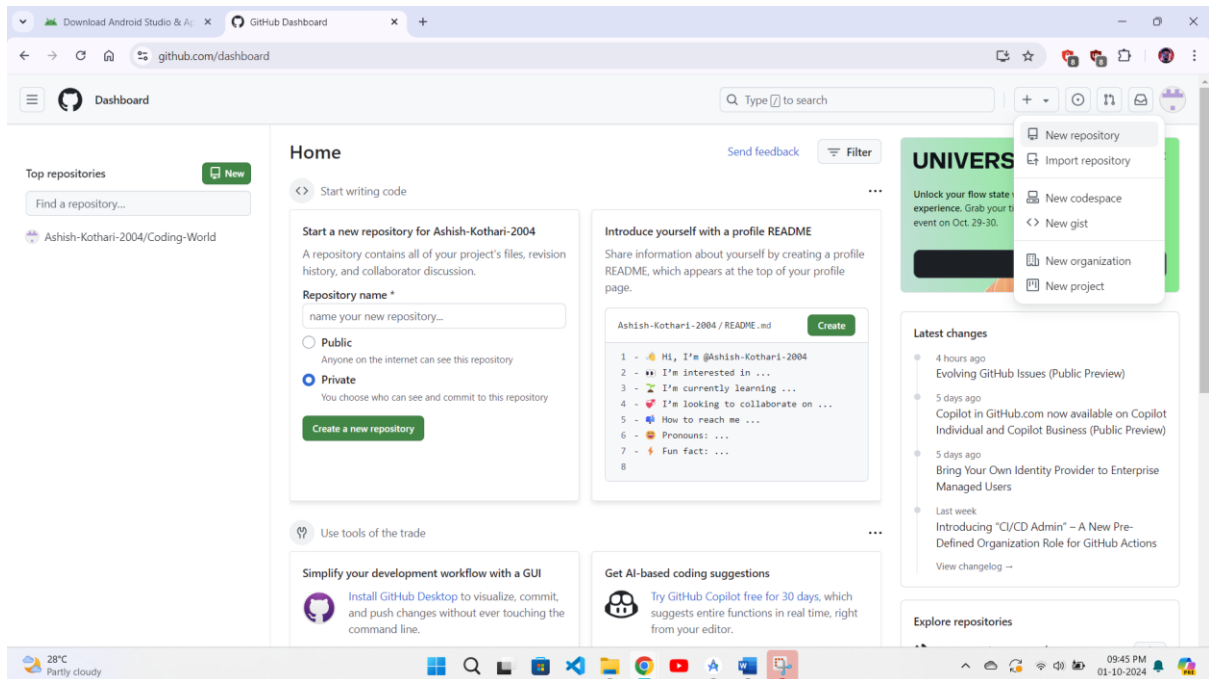


Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

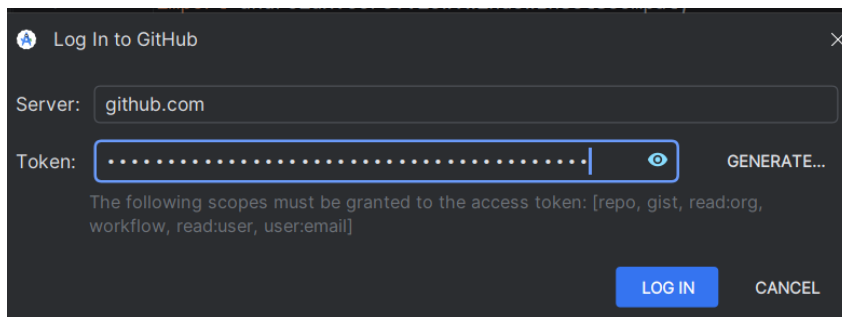
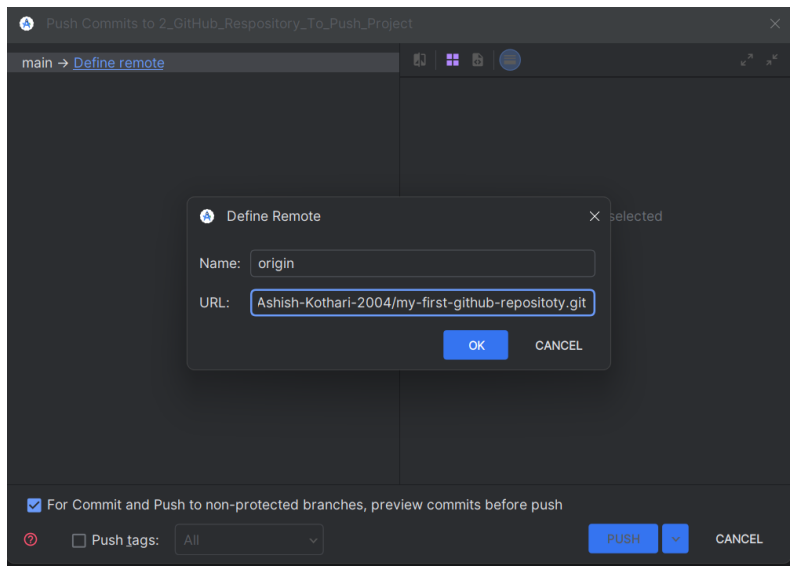


```
EdgeToEdge.enable(this);
setContentView(R.layout.activity_main);
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
    return insets;
});
```



Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501



**Problem Statement 3:** Develop an android application to display a message “welcome to graphic era” on button click.

**Code:**

**activity\_main.xml**

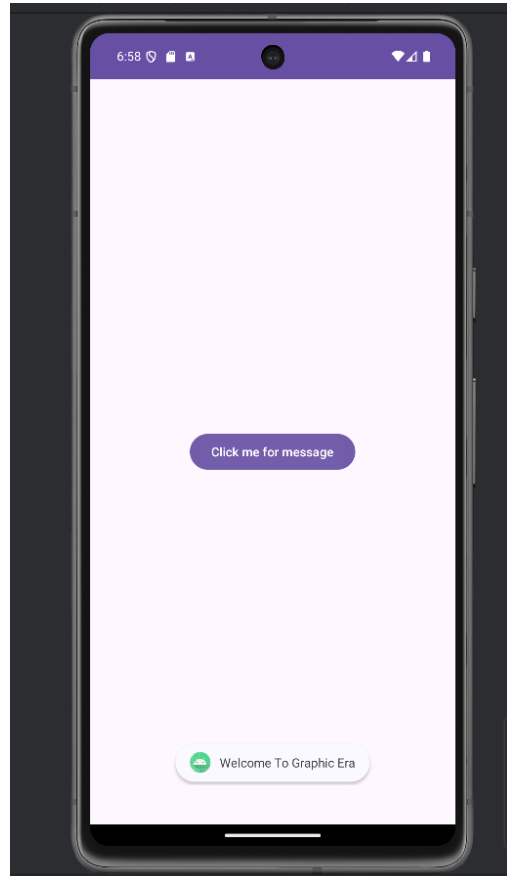
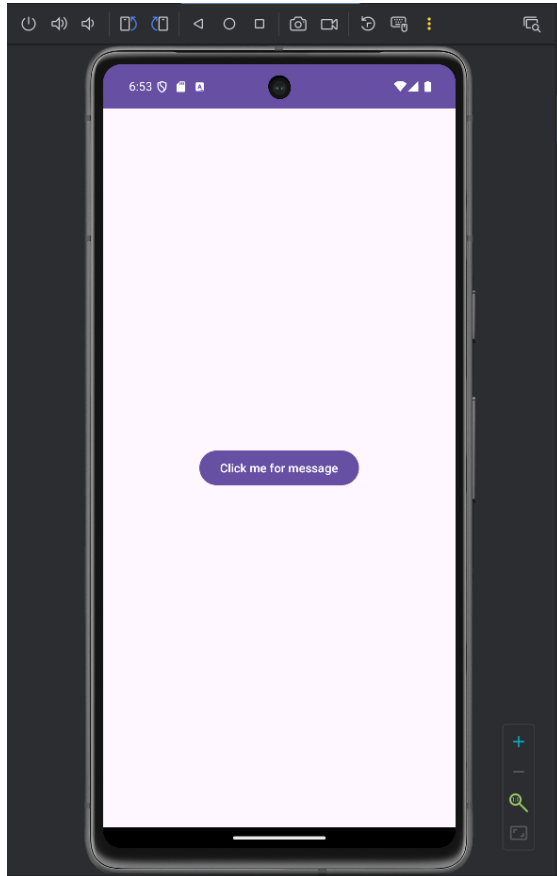
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/click"/>
</LinearLayout>
```

**MainActivity.java**

```
package com.example.toastmessage;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn1 = findViewById(R.id.btn1);
        btn1.setOnClickListener(new View.OnClickListener() {
```

```
@Override
public void onClick(View view) {
    Toast.makeText(MainActivity.this, "Welcome To Graphic Era",
    Toast.LENGTH_SHORT).show();
}
});
}
```

### Output:



**Problem Statement 4:** Create an android application to change background color on button click.

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:gravity="center">
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/click_background_color"
    />
</LinearLayout>
```

**MainActivity.java**

```
package com.example.changebackgroundcolor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.LinearLayout;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn1 = findViewById(R.id.btn1);
        LinearLayout background = findViewById(R.id.main);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                background.setBackgroundResource(R.color.green);
            }
        });
    }
}
```

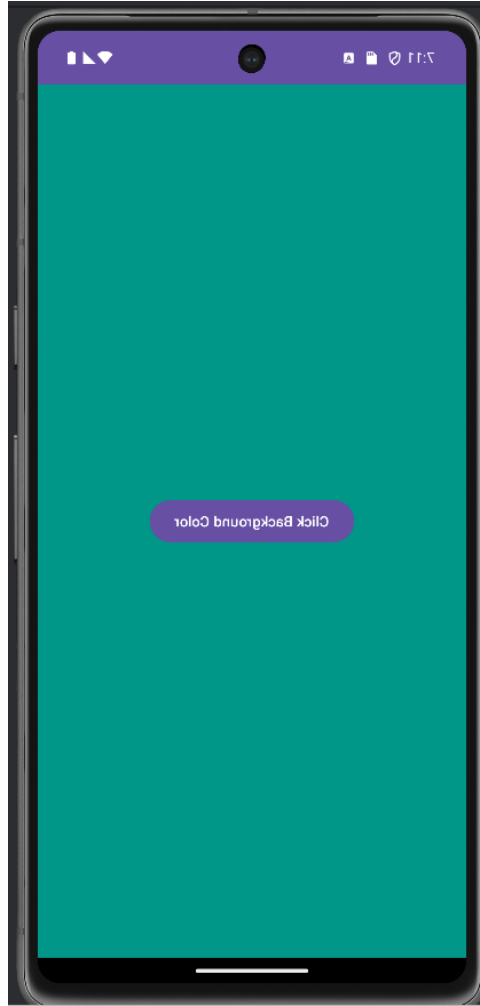
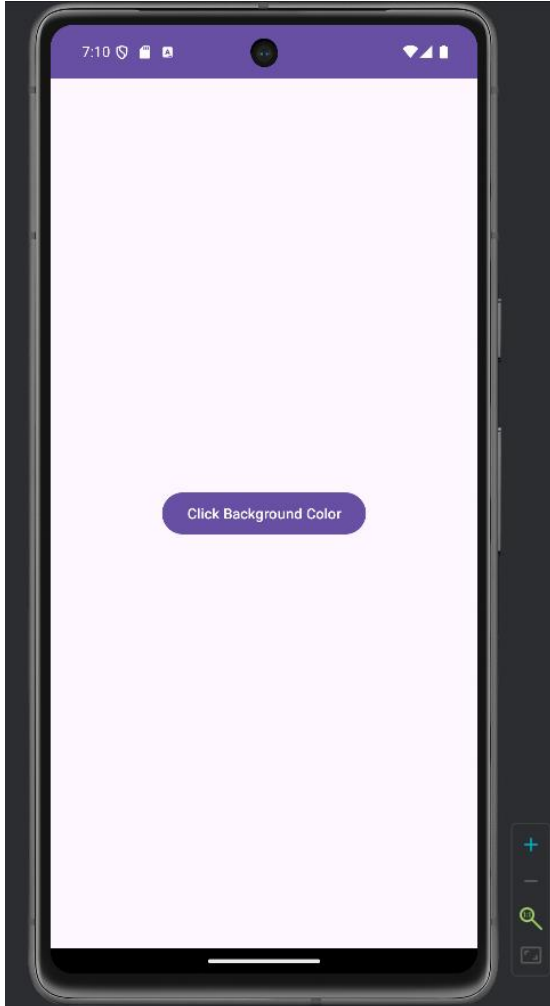


Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

```
}  
});  
}  
}
```

### Output:



**Problem Statement 5:** Create an android application to add two numbers.

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">
    <EditText
        android:id="@+id/num1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:autofillHints=""
        android:hint="@string/enter_first_number"
        android:layout_gravity="center_horizontal"
        android:layout_margin="50dp"
        android:inputType="numberDecimal"/>
    <EditText
        android:id="@+id/num2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:autofillHints=""
        android:hint="@string/enter_second_number"
        android:layout_gravity="center"
        android:inputType="numberDecimal"/>
    <TextView
        android:id="@+id/result"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:layout_margin="80dp"
        android:textSize="20sp"
        android:textStyle="bold"/>
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/add"
        android:layout_gravity="center_horizontal"
        android:layout_margin="50dp"/>
</LinearLayout>
```

### MainActivity.java

```
package com.example.additionofwonumbers;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText num1 = findViewById(R.id.num1);
        EditText num2 = findViewById(R.id.num2);
        TextView result = findViewById(R.id.result);
        Button btn = findViewById(R.id.btn1);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                double n1 = Double.parseDouble(num1.getText().toString());
                double n2 = Double.parseDouble(num2.getText().toString());
                double add = n1 + n2;
                result.setText(String.valueOf(add));
            }
        });
    }
}
```

**Output:**



**Problem Statement 6:** Create an android application of calculator.

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:background="@color/background"
    android:gravity="center_horizontal">
    <!-- Display for the result -->
    <TextView
        android:id="@+id/resultText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="end"
        android:padding="16dp"
        android:text="@string/_0"
        android:textSize="32sp"
        android:textColor="@color/black"
        android:backgroundTint="@color/text_background"
        android:background="@drawable/text_view_corner" />
    <!-- Row 1: Numbers and basic operations -->
    <GridLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:columnCount="4"
        android:rowCount="5"
        android:layout_marginTop="480dp">
        <!-- Buttons 1 to 9 -->
        <Button
            android:id="@+id/btn1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="@string/_1" />
        <Button
            android:id="@+id/btn2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="@string/_2" />
        <Button
            android:id="@+id/btn3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
```

```
        android:text="@string/_3" />
<Button
    android:id="@+id/btnAdd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/plus" />
<!-- Buttons 4 to 6 -->
<Button
    android:id="@+id/btn4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_4" />
<Button
    android:id="@+id/btn5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_5" />
<Button
    android:id="@+id/btn6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_6" />
<Button
    android:id="@+id/btnSubtract"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/minus" />
<!-- Buttons 7 to 9 -->
<Button
    android:id="@+id/btn7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_7" />
<Button
    android:id="@+id/btn8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_8" />
<Button
    android:id="@+id/btn9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_9" />
<Button
    android:id="@+id/btnMultiply"
    android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="@string/multiplication" />
<!-- Button 0, Clear, Equal, and Divide -->
<Button
    android:id="@+id/btnClear"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/c" />
<Button
    android:id="@+id/btn0"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/_0" />
<Button
    android:id="@+id/btnEqual"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/equal" />
<Button
    android:id="@+id/btnDivide"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/divide" />
</GridLayout>
</LinearLayout>
```

### MainActivity.java

```
package com.example.calculator;
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 {
    TextView resultText;
    String currentOperator = "";
    String currentNumber = "";
    double operand1 = 0, operand2 = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        resultText = findViewById(R.id.resultText);
        int[] numberButtons = {R.id.btn0, R.id.btn1, R.id.btn2, R.id.btn3, R.id.btn4, R.id.btn5,
            R.id.btn6, R.id.btn7, R.id.btn8, R.id.btn9};
```

```
for (int id : numberButtons) {
    findViewById(id).setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Button button = (Button) view;
            currentNumber += button.getText().toString();
            resultText.setText(currentNumber);
        }
    });
}

findViewById(R.id.btnAdd).setOnClickListener(new OperatorClickListener("+"));
findViewById(R.id.btnSubtract).setOnClickListener(new OperatorClickListener("-"));
findViewById(R.id.btnMultiply).setOnClickListener(new OperatorClickListener("*"));
findViewById(R.id.btnDivide).setOnClickListener(new OperatorClickListener("/"));
// Clear button
findViewById(R.id.btnClear).setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        currentNumber = "";
        currentOperator = "";
        operand1 = 0;
        operand2 = 0;
        resultText.setText("0");
    }
});

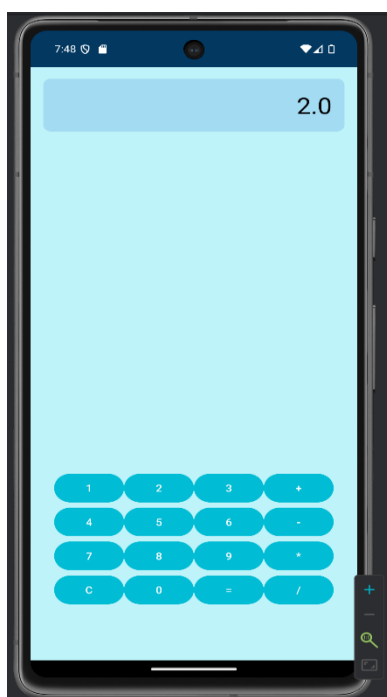
findViewById(R.id.btnEqual).setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        if (!currentNumber.equals("") && !currentOperator.equals("")) {
            operand2 = Double.parseDouble(currentNumber);
            double result = 0;
            switch (currentOperator) {
                case "+":
                    result = operand1 + operand2;
                    break;
                case "-":
                    result = operand1 - operand2;
                    break;
                case "*":
                    result = operand1 * operand2;
                    break;
                case "/":
                    if (operand2 != 0) {
                        result = operand1 / operand2;
                    } else {
                        resultText.setText("Error");
                    }
                }
            }
        }
    }
});
```



```
        return;
    }
    break;
}
resultText.setText(String.valueOf(result));
currentNumber = "";
currentOperator = "";
operand1 = result;
}
}
});
}

private class OperatorClickListener implements View.OnClickListener {
    private final String operator;
    OperatorClickListener(String operator) {
        this.operator = operator;
    }
    @Override
    public void onClick(View view) {
        if (!currentNumber.equals("")) {
            operand1 = Double.parseDouble(currentNumber);
            currentOperator = operator;
            currentNumber = "";
        }
    }
}
}
```

### Output:



**Problem Statement 7:** Create an application to set image on image view.

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:contentDescription="set_images"
        android:src="@drawable/avatar"/>
</LinearLayout>
```

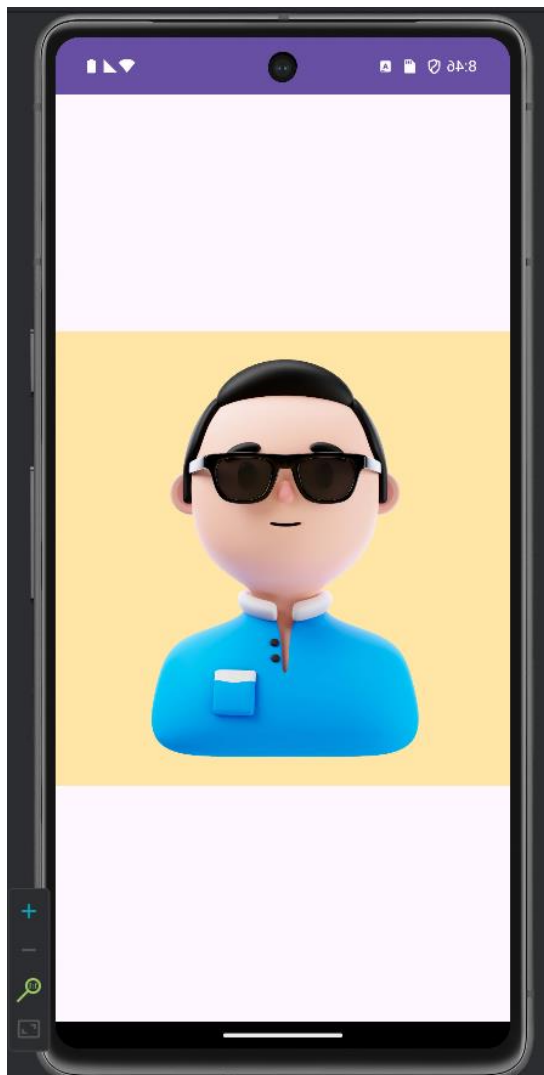
**MainActivity.java**

```
package com.example.setimageview;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

**Output:**



**Problem Statement 8:** Create a program to depict android activity life cycle

**Code:**

**activity\_main.xml**

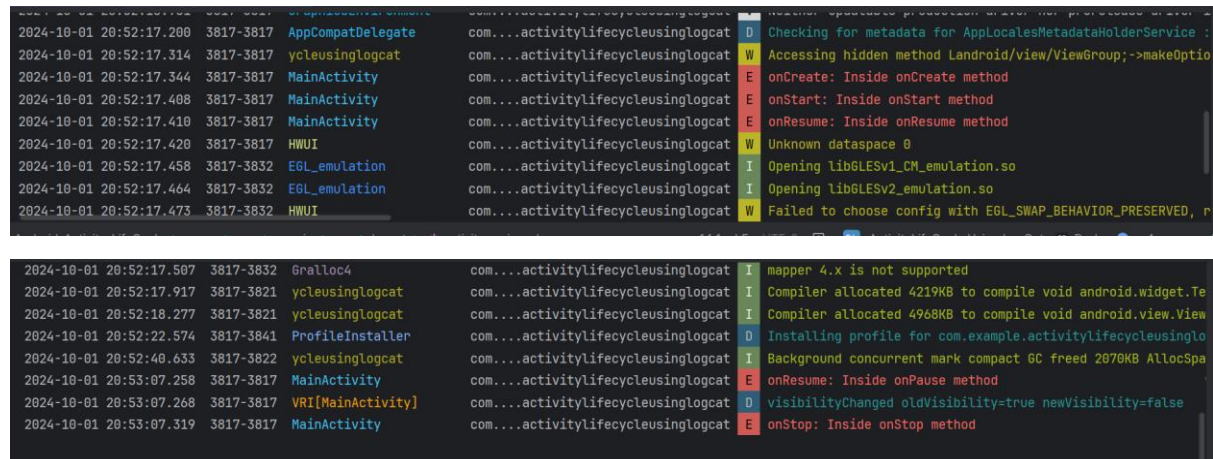
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"/>
</LinearLayout>
```

**MainActivity.java**

```
package com.example.activitylifecycleusinglogcat;
import android.os.Bundle;
import android.util.Log;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    public static final String status = MainActivity.class.getSimpleName();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.e(status, "onCreate: Inside onCreate method");
    }
    @Override
    protected void onStart() {
        super.onStart();
        Log.e(status, "onStart: Inside onStart method");
    }
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.e(status, "onRestart: Inside onRestart method");
    }
    protected void onResume() {
        super.onResume();
        Log.e(status, "onResume: Inside onResume method");
    }
}
```

```
}  
protected void onPause(){  
    super.onPause();  
    Log.e(status, "onResume: Inside onPause method");  
}  
@Override  
protected void onStop() {  
    super.onStop();  
    Log.e(status, "onStop: Inside onStop method");  
}  
@Override  
protected void onDestroy() {  
    super.onDestroy();  
    Log.e(status, "onDestroy: Inside onDestroy method");  
}  
}
```

## Output:



```
2024-10-01 20:52:17.200 3817-3817 AppCompatDelegate com...activitylifecycleusinglogcat D Checking for metadata for AppLocalesMetadataHolderService :  
2024-10-01 20:52:17.314 3817-3817 ycleusinglogcat com...activitylifecycleusinglogcat W Accessing hidden method Landroid/view/ViewGroup;-->makeOptio  
2024-10-01 20:52:17.344 3817-3817 MainActivity com...activitylifecycleusinglogcat E onCreate: Inside onCreate method  
2024-10-01 20:52:17.408 3817-3817 MainActivity com...activitylifecycleusinglogcat E onStart: Inside onStart method  
2024-10-01 20:52:17.410 3817-3817 MainActivity com...activitylifecycleusinglogcat E onResume: Inside onResume method  
2024-10-01 20:52:17.420 3817-3817 HWUI com...activitylifecycleusinglogcat W Unknown dataspace 0  
2024-10-01 20:52:17.458 3817-3832 EGL_emulation com...activitylifecycleusinglogcat I Opening libGLESv1_CM_emulation.so  
2024-10-01 20:52:17.464 3817-3832 EGL_emulation com...activitylifecycleusinglogcat I Opening libGLESv2_emulation.so  
2024-10-01 20:52:17.473 3817-3832 HWUI com...activitylifecycleusinglogcat W Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED, r  
2024-10-01 20:52:17.507 3817-3832 Gralloc4 com...activitylifecycleusinglogcat I mapper 4.x is not supported  
2024-10-01 20:52:17.917 3817-3821 ycleusinglogcat com...activitylifecycleusinglogcat I Compiler allocated 4219KB to compile void android.widget.Te  
2024-10-01 20:52:18.277 3817-3821 ycleusinglogcat com...activitylifecycleusinglogcat I Compiler allocated 4968KB to compile void android.view.View  
2024-10-01 20:52:22.574 3817-3841 ProfileInstaller com...activitylifecycleusinglogcat D Installing profile for com.example.activitylifecycleusinglo  
2024-10-01 20:52:40.633 3817-3822 ycleusinglogcat I Background concurrent mark compact GC freed 2070KB AllocSpa  
2024-10-01 20:53:07.258 3817-3817 MainActivity com...activitylifecycleusinglogcat E onResume: Inside onPause method  
2024-10-01 20:53:07.268 3817-3817 VRI[MainActivity] com...activitylifecycleusinglogcat D visibilityChanged oldVisibility=true newVisibility=false  
2024-10-01 20:53:07.319 3817-3817 MainActivity com...activitylifecycleusinglogcat E onStop: Inside onStop method
```

**Problem Statement 9:** Create a program to show implicit intent

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:gravity="center">
    <Button
        android:id="@+id/btn"
        android:layout_width="171dp"
        android:layout_height="43dp"
        android:text="@string/click_here" />
</RelativeLayout>
```

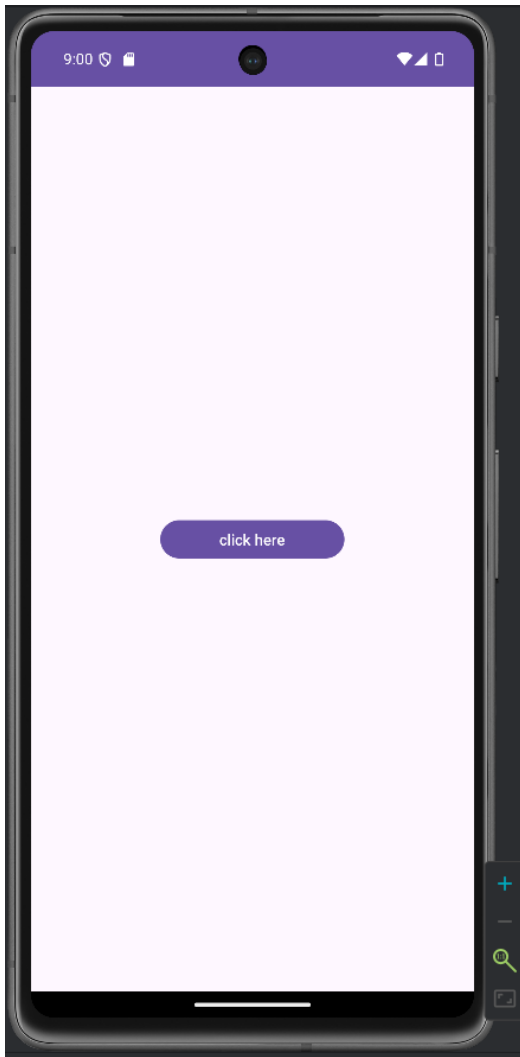
**MainActivity.java**

```
package com.example.implicitintent;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn1 = findViewById(R.id.btn);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String url = "https://www.youtube.com/";
                Intent implicitIntent = new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(implicitIntent);
            }
        });
    }
}
```

Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

**Output:**



**Problem Statement 10:** Create a program to show explicit intent.

**Code:**

**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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/next"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="300dp"
        android:layout_marginTop="700dp"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="50dp" />
</RelativeLayout>
```

**MainActivity.java**

```
package com.example.explicitintent;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn = findViewById(R.id.btn);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent explicitIntent = new Intent(MainActivity.this, SecondActivity.class);
                startActivity(explicitIntent);
            }
        });
    }
}
```



```
    }  
    });  
}  
}
```

### **activity\_second.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"  
    android:gravity="center">  
    <TextView  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:text="@string/hello_world"  
        android:textSize="22sp"  
        android:textStyle="bold"/>  
</RelativeLayout>
```

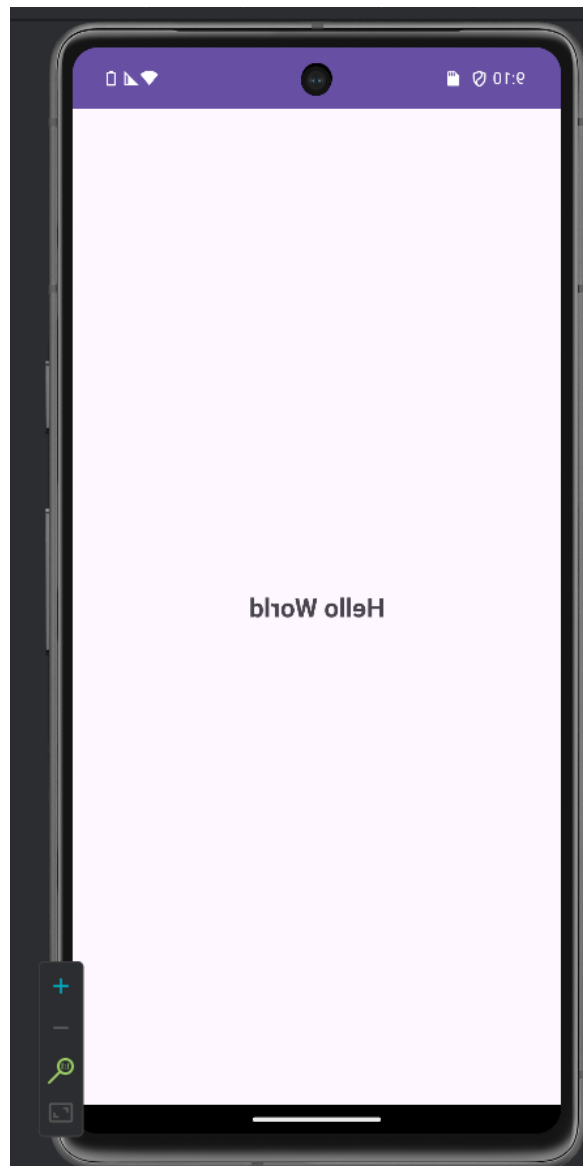
### **SecondActivity.java**

```
package com.example.explicitintent;  
import android.os.Bundle;  
import androidx.annotation.Nullable;  
import androidx.appcompat.app.AppCompatActivity;  
public class SecondActivity extends AppCompatActivity {  
    @Override  
    protected void onCreate(@Nullable Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_second);  
    }  
}
```

Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

### Output:



**Problem Statement 11:** Develop an android application to demonstrate Event Listener and Event Handlers.

**Code:**

**activity\_main.xml**

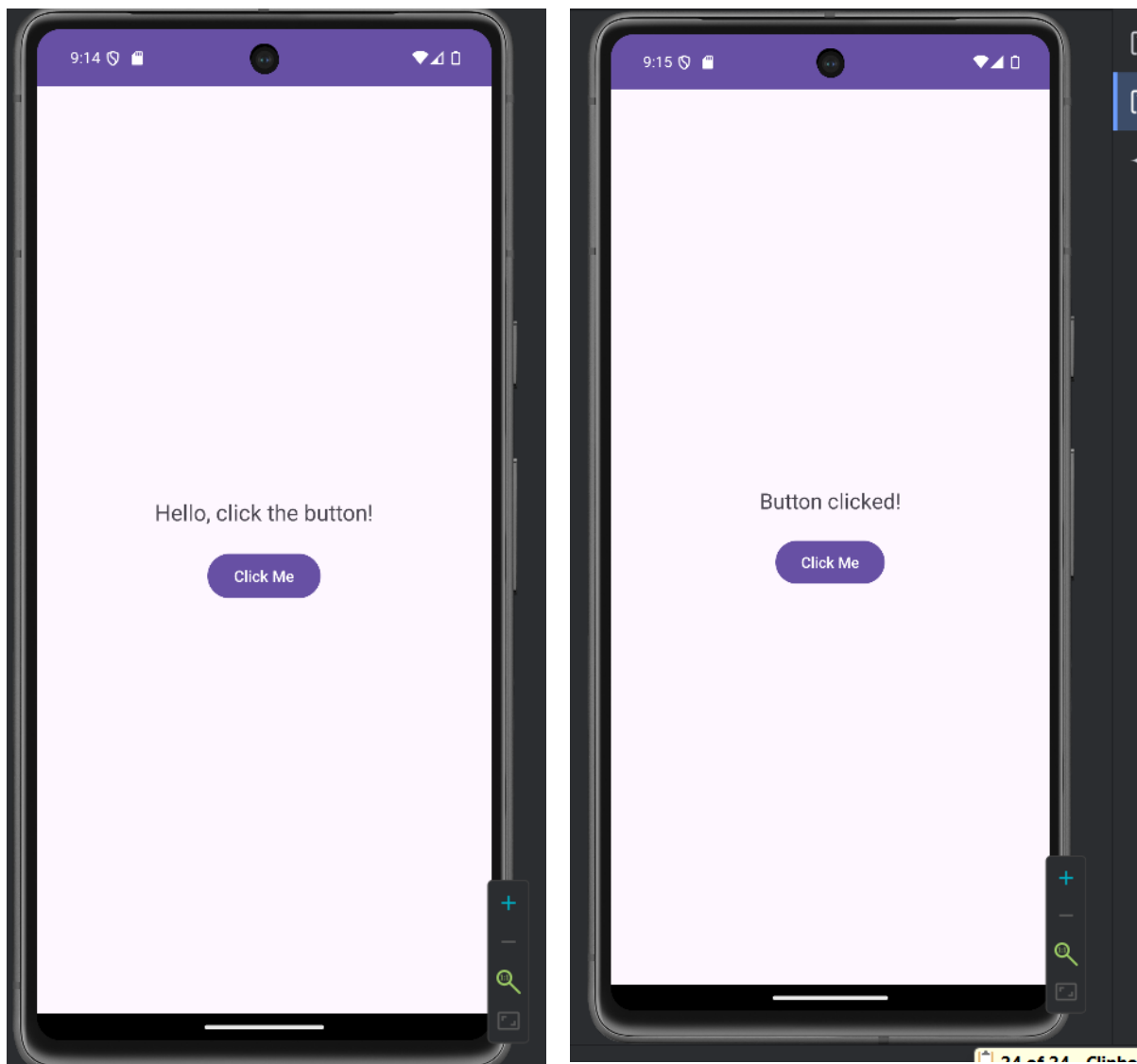
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_click_the_button"
        android:textSize="20sp"
        android:layout_marginBottom="20dp"/>
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/click_me" />
</LinearLayout>
```

**MainActivity.java**

```
package com.example.eventlistenersandhandlers;
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 {
    private TextView textView;
    private Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // Reference the UI elements
        textView = findViewById(R.id.textView);
        button = findViewById(R.id.button);
        // Set the event listener for the button
```

```
button.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        // Handle the button click event  
        textView.setText("Button clicked!");  
    }  
});  
}
```

**Output:**



**Problem Statement 12:** Develop an android application to create two buttons and switch between images on button click.

**Code:**

**activity\_main.xml**

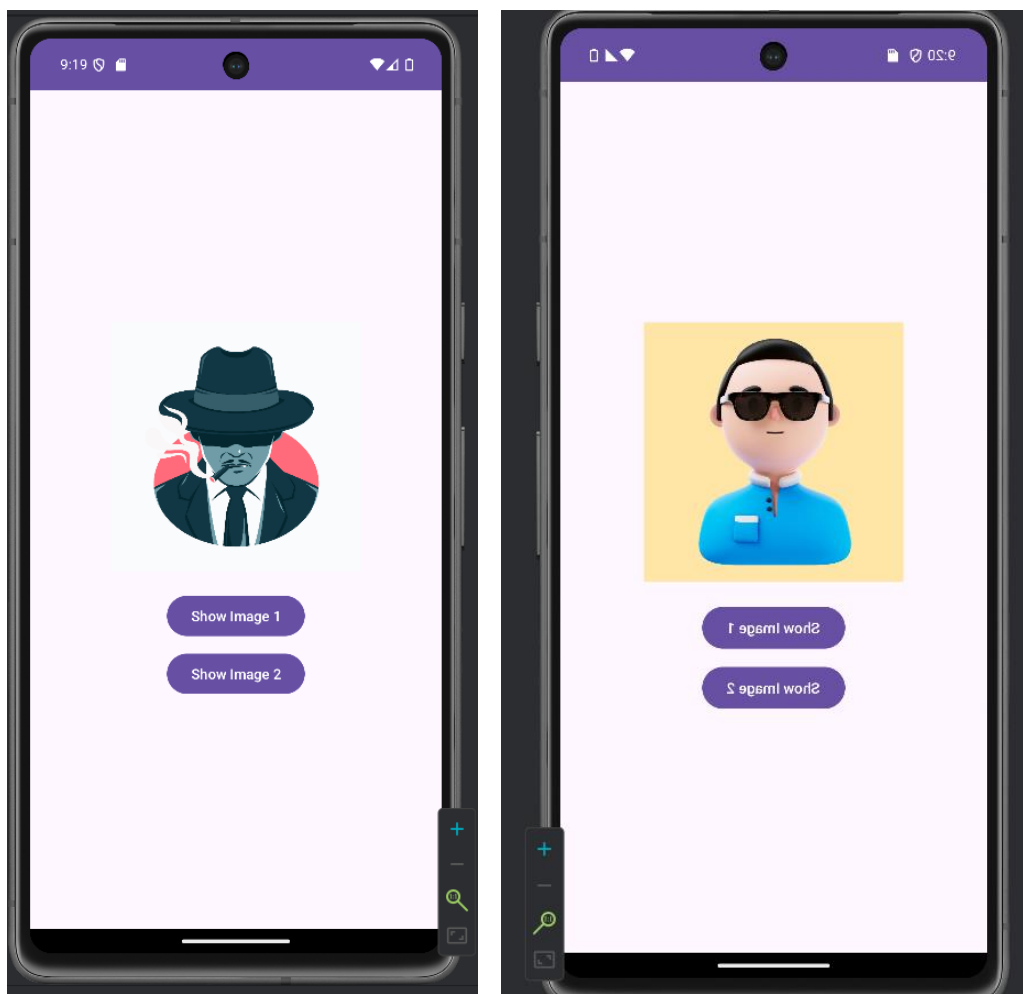
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp">
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="250dp"
        android:layout_height="250dp"
        android:src="@drawable/avatar1"
        android:contentDescription="@string/image_placeholder"
        android:layout_marginBottom="20dp" />
    <Button
        android:id="@+id/buttonImage1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/show_image_1" />
    <Button
        android:id="@+id/buttonImage2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/show_image_2"
        android:layout_marginTop="10dp" />
</LinearLayout>
```

**MainActivity.java**

```
package com.example.switchbetweenimages;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```
ImageView imageView = findViewById(R.id.imageView);
Button buttonImage1 = findViewById(R.id.buttonImage1);
Button buttonImage2 = findViewById(R.id.buttonImage2);
buttonImage1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        imageView.setImageResource(R.drawable.avatar1);
    }
});
buttonImage2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        imageView.setImageResource(R.drawable.avatar2);
    }
});
}
```

### Output:



**Problem Statement 13:** Develop an android application to display toast message on button click.

**Code:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/click" />
</LinearLayout>
```

**MainActivitiy.java**

```
package com.example.toastmessage;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btn1 = findViewById(R.id.btn1);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(MainActivity.this, "Displaying toast message",
                    Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

Name: Ashish Kothari  
University Roll No: 2221283

Subject: Android Programming Lab  
Subject Code: PBC 501

### Output:

