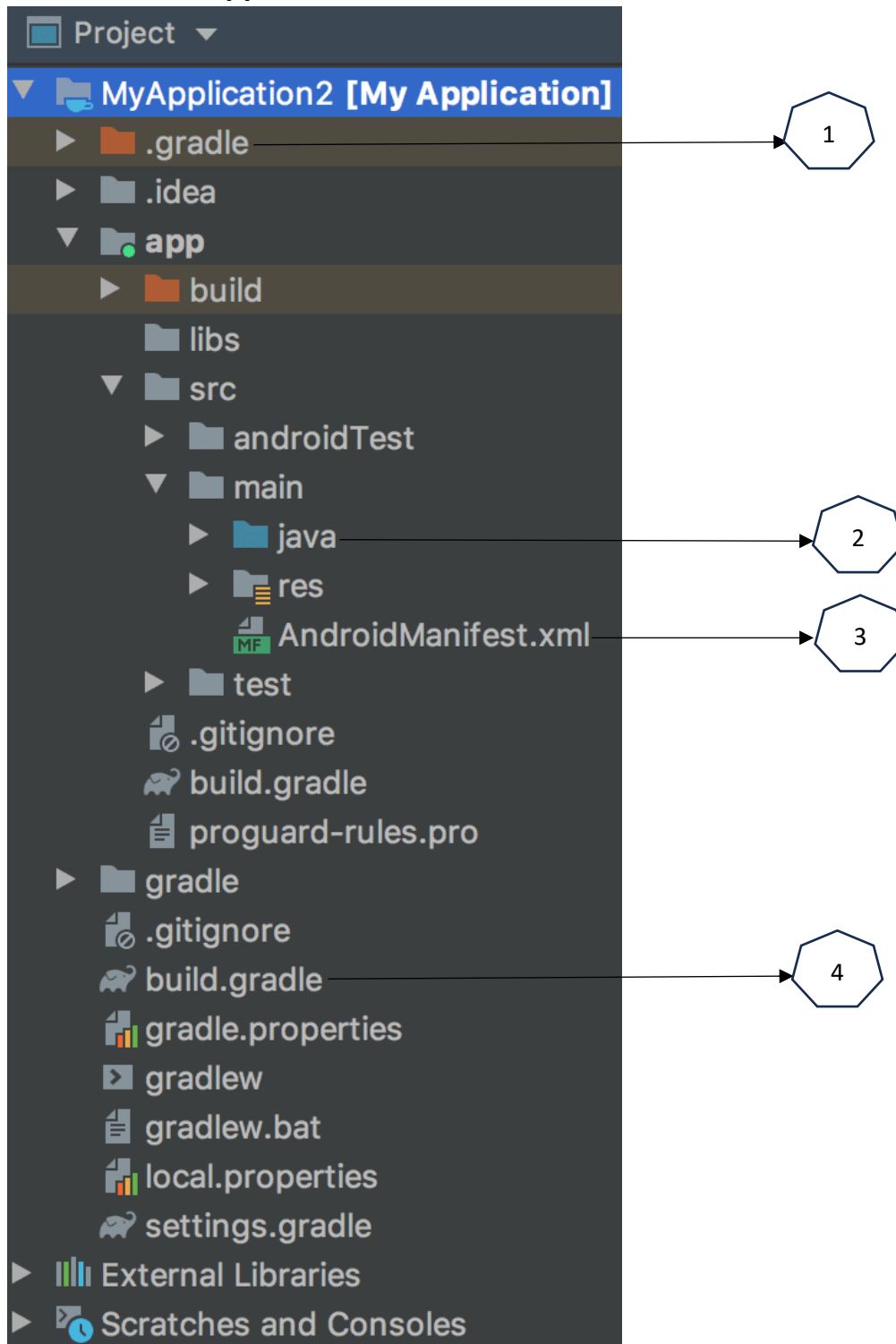


Mobile Application Lab Programs

Basic Android Application Structure



1. **.gradle**: Gradle is an excellent open-source construction tool that is capable of the development of any kind of software.
2. **Java**: Android Studio is the official Integrated Development Environment (IDE) for Android app development, and it supports Java as one of the primary programming languages.
3. **AndroidManifest.xml**: The Android Manifest file, **AndroidManifest.xml**, is a crucial component of an Android app. It provides essential information about the app to the

Android operating system, build tools, and Google Play Store. This file must be named precisely `AndroidManifest.xml` and be placed at the root of the project source set.

4. **Build.gradle:** Gradle is a build system (open source) that is used to automate building, testing, deployment, etc. "`build.gradle`" are script where one can automate the tasks. For example, the simple task of copying some files from one directory to another can be performed by the Gradle build script before the actual build process happens.

5. **Why is Gradle Needed?**

Every Android project needs a Gradle for generating an apk from the `.java` and `.xml` files in the project. Simply put, a Gradle takes all the source files (java and XML) and applies appropriate tools, e.g., converts the java files into dex files and compresses all of them into a single file known as apk that is actually used.

Program 1

1. Creating “Hello world” Application.

Steps:

1. Click Start- Android Studio, a Welcome to Android Studio dialog box will appear. Click New Project, the New Project Dialog box appears.
2. Choose Empty Views Activity then click Next.
3. Specify the Name of your project, Select the Language as Java, and Select the SDK as API 24(“Nougat”,Android 7.0). Click Finish Button.
4. Update the following code in activity_main.xml and MainActivity.java
5. Click Run app or shift+F10 to execute the application.

activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/resauto"
xmlns:tools="http://schemas.android.com/tools"
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!"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    android:textSize="30sp"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

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

OUTPUT



2:27

Hello World



Hello World!



Program 2

2. Creating an application that displays message based on the screen orientation.

Steps:

1. Click Start - Android Studio, a Welcome to Android Studio dialog box will appear.
2. Click New Project, the New Project Dialog box appears.
3. Choose Empty Views Activity then click Next.
4. Specify the Name of your project, Select the Language as Java, and Select the SDK as API 24("Nougat",Android 7.0). Click Finish Button.
5. Update the following code in activity_main.xml, activity_main2.xml, MainActivity.java and MainActivity2.java
6. Update the following code in app manifests AndroidManifest.xml
7. To Create another activity right click on app – new activity-Empty views Activity.
8. Update the following code in activity_main2.xml and MainActivity2.java.
9. Click Run App or Shift+F10 to execute the application

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.ScreenOrientation"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity2"
            android:exported="false"
            android:screenOrientation="landscape"/>
        <activity
            android:name=".MainActivity"
            android:exported="true"
            android:screenOrientation="portrait">
            <intentfilter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intentfilter>
        </activity>
    </application>
</manifest>
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>
```

```

<androidx.constraintlayout.widget.ConstraintLayout
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:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="8dp"
    android:layout_marginTop="112dp"
    android:onClick="onClick"
    android:text="Launch next activity"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.612"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editText1"
    app:layout_constraintVertical_bias="0.613" />
<TextView
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginEnd="8dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="124dp"
    android:ems="10"
    android:textSize="22dp"
    android:text="This activity is portrait orientation"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.502"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"/> </androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.bca.screenorientation;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

```

```

        setContentView(R.layout.activity_main);
    }
    public void onClick(View v) {
        Intent intent = new Intent(MainActivity.this, MainActivity2.class);
        startActivity(intent);
    }
}

```

activity_main2.xml

```

<?xml version="1.0" encoding="utf8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="180dp"
        android:text="this is landscape orientation"
        android:textSize="22dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.502"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    </androidx.constraintlayout.widget.ConstraintLayout>

```

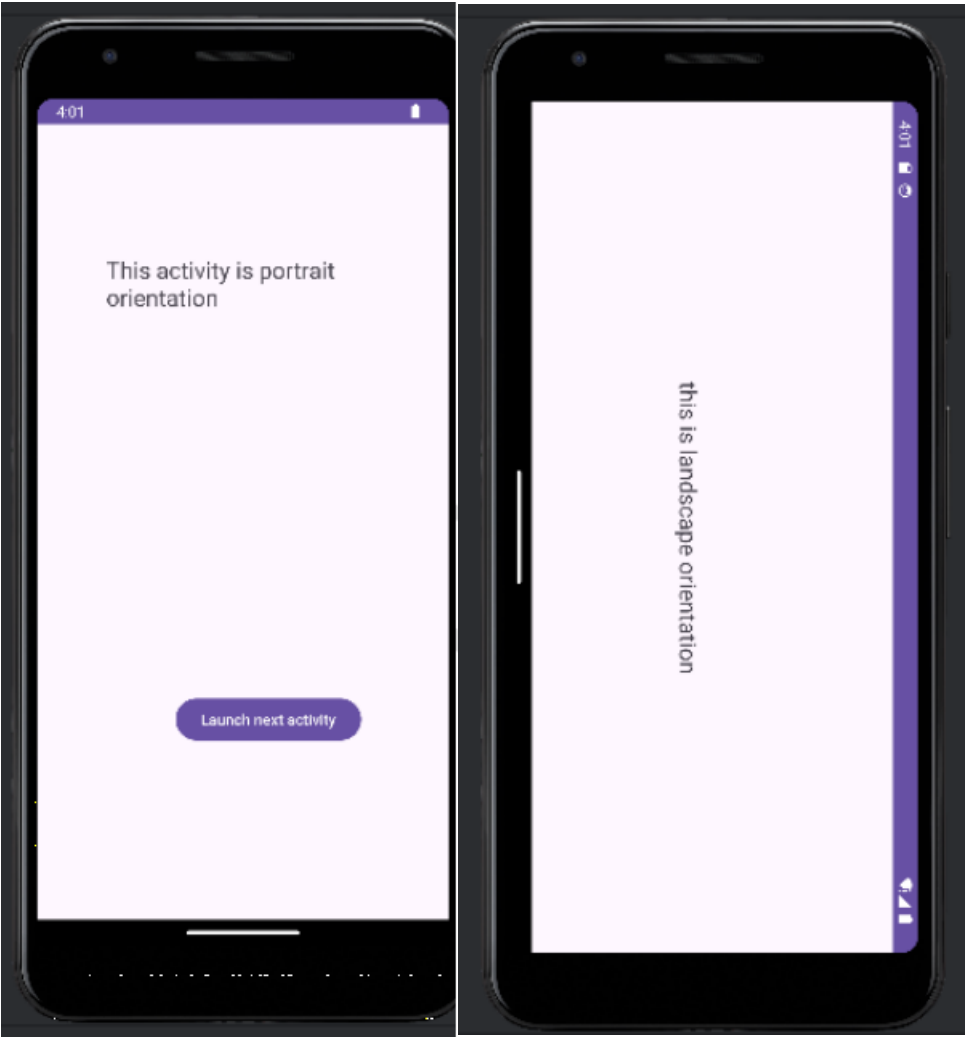
MainActivity2.java

```

package com.bca.screenorientation;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity2 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
    }
}

```

OUTPUT



Program 3

Create an application to develop Login window using UI controls.

1. Click New Project, the New Project Dialog box appears.
2. Choose Empty Views Activity then click Next.
3. Specify the Name of your project, Select the Language as Java, and Select the SDK as API 24("Nougat",Android 7.0). Click Finish Button.
4. Create background resources (bg_outer.xml)
 - a. To create resource file, click appresdrawable. Right click drawableNew Drawable Resource File. The New Resource File dialog box appears.
 - b. Set filename as bg_outer.xml, root element as shape and then click ok.
Modify the bg_outer.xml file
5. Create background resources (bg_inner.xml)
 - a. To create resource file, click appresdrawable. Right click drawableNew Drawable Resource File. The New Resource File dialog box appears.
 - b. Set filename as bg_inner.xml, root element as shape and then click ok.
Modify the bg_inner.xml file
6. Click Run App or Shift+F10 to execute the application.

activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>
<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:background="@drawable/bg_outer">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:layout_centerInParent="true"
        android:orientation="vertical"
        android:background="@drawable/bg_inner"
        android:padding="30dp"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login Page"
        android:textSize="32sp"
        android:textStyle="bold"
        android:fontFamily="sansserifcondensedmedium"
        android:textColor="@color/black"
        android:paddingBottom="20dp"
    />
```

```

<EditText
    android:id="@+id/editTextUsername"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Username"
    android:layout_marginBottom="16dp"/>
<EditText
    android:id="@+id/editTextPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:layout_below="@id/editTextUsername"
    android:layout_marginBottom="16dp"
    android:inputType="textPassword"/>
<Button
    android:id="@+id/buttonLogin"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login"
    android:layout_below="@id/editTextPassword"/>
</LinearLayout>
</RelativeLayout>

```

bg_inner.xml

```

<?xml version="1.0" encoding="utf8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <gradient
        android:startColor="#84FFFF"
        android:endColor="#f08"
        android:angle="100"/>
    <corners android:radius="20dp"/>
</shape>

```

bg_outer.xml

```

<?xml version="1.0" encoding="utf8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <corners android:radius="12dp" />
    <gradient
        android:startColor="#B388FF"
        android:endColor="#397C9A"
        android:angle="100"/>
</shape>

```

MainActivity.java

```

package com.bca.loginprgm;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

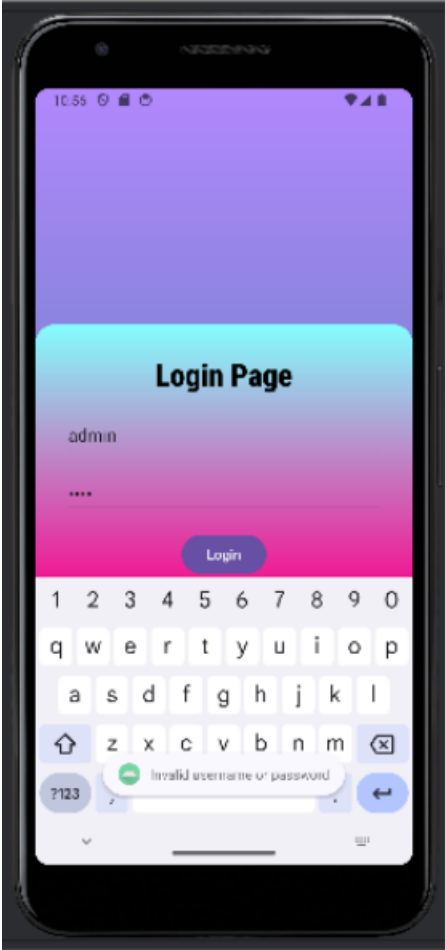
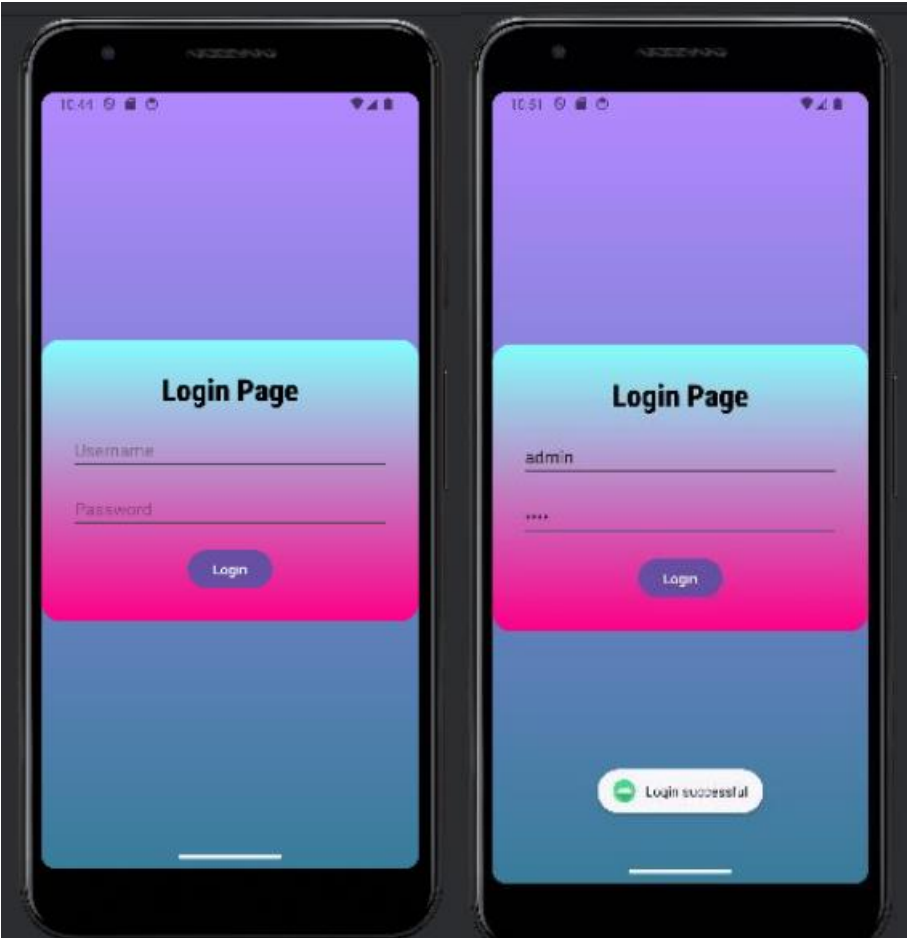
```

```

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private EditText editTextUsername,editTextPassword;
    private Button buttonLogin;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        editTextUsername = findViewById(R.id.editTextUsername);
        editTextPassword = findViewById(R.id.editTextPassword);
        buttonLogin = findViewById(R.id.buttonLogin);
        buttonLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = editTextUsername.getText().toString().trim();
                String password = editTextPassword.getText().toString().trim();
                if(username.equals("admin") && password.equals("pass")){
                    Toast.makeText(MainActivity.this, "Login successful",
                        Toast.LENGTH_SHORT).show();
                } else {
                    Toast.makeText(MainActivity.this, "Invalid username or password",
                        Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}

```

OUTPUT



Program 4

Create an application to implement new activity using explicit intent, implicit intent and content provider.

activity_new.xml

```
<?xml version="1.0" encoding="utf8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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=".NewActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to Explicit Intent"
        android:textSize="28sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.bca.intent;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
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);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
    }
    public void onImplicitButtonClicked(View view)
```

```

{
    Uri url=Uri.parse("https://www.google.com");
    Intent i=new Intent(Intent.ACTION_VIEW, url);
    startActivity(i);
}
public void onExplicitButtonClicked(View view )
{
    Intent i=new Intent(MainActivity.this, NewActivity.class);
    startActivity(i);
}
}

```

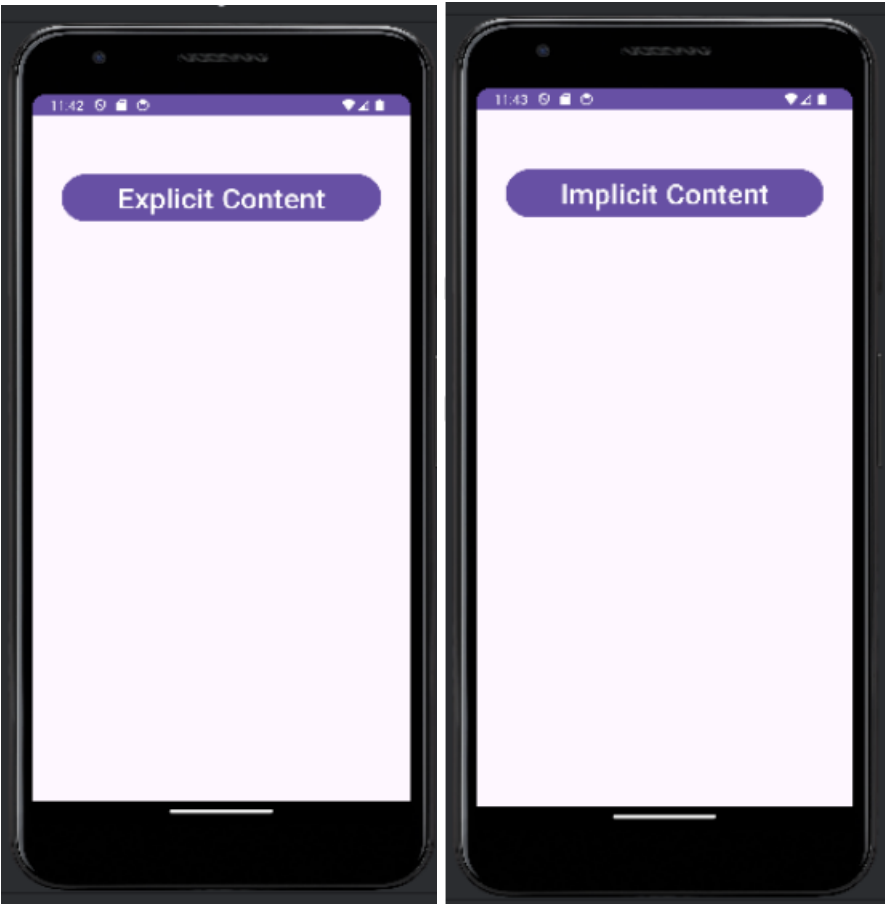
activity_main.xml

```

<?xml version="1.0" encoding="utf8"?>
<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"
    android:gravity="center" tools:context=".MainActivity">
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Implicit Intent"
        android:onClick="onImplicitButtonClicked"
    />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Explicit Intent"
        android:onClick="onExplicitButtonClicked"/>
</LinearLayout>

```

OUTPUT



Program 5

Create an application that displays custom designed Opening Screen.

1. Click New Project, the New Project Dialog box appears.
2. Choose Empty Views Activity then click Next.
3. Specify the Name of your project, Select the Language as Java, and Select the SDK as API 24("Nougat",Android 7.0). Click Finish Button.
4. To create another activity for Home Page, Right Click AppNewActivity Empty Views Activity. A New Android Activity dialog box appears, Specify the Name of the activity as mainScreen then click Finish.
5. Create one TextView resource in activity_mainScreen.xml and update the following Code

Activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/resauto"
    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">
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/img"/>
</RelativeLayout>
```

Activity_mainscreen.xml

```
<?xml version="1.0" encoding="utf8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/resauto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".Mainscreen"
    android:gravity="center"
    android:background="#7E6C29">
    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to home Page"
        android:textStyle="bold"
        android:textSize="32sp"
        android:textColor="@color/black"/>
</RelativeLayout>
```


Mainactivity.java

```
package com.bca.openingscreen;
import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;
import android.view.WindowManager;
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 {
    private static final int SPLASH_SCREEN_TIME_OUT = 10000;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        getWindow().setFlags(WindowManager.LayoutParams.FLAG_FULLSCREEN,
WindowManager.LayoutParams.FLAG_FULLSCREEN);
        new Handler().postDelayed(new Runnable() {
            @Override
            public void run()
            {
                Intent i = new Intent(MainActivity.this, Mainscreen.class);
                startActivity(i);
                finish();
            }
        }, SPLASH_SCREEN_TIME_OUT);
    }
}
```

Mainscreen.java

```
package com.bca.openingscreen;
import android.os.Bundle;
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 Mainscreen extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_mainscreen);
        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;  
});  
}  
}
```

OUTPUT



Program 6

Create menu in Application

1. Click New Project, the New Project Dialog box appears.
2. Choose Empty Views Activity then click Next.
3. Specify the Name of your project, Select the Language as Java, and Select the SDK as API 24("Nougat",Android 7.0).Click Finish Button.
4. To create another activity for Home Page, Right Click AppNewActivity Empty Views Activity. A New Android Activity dialog box appears, Specify the Name of the activity as HomeScreen then click Finish.
5. To create a Menu Resource File:

Rightclick on the res directory in your Android project, navigate to New Android Resource File, and name the file menus.xml, Root element as Menu and update the following content.

menus.xml

```
<?xml version="1.0" encoding="utf8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
  <item android:id="@+id/php"
    android:title="PHP"/>
  <item android:id="@+id/java"
    android:title="JAVA"/>
  <item android:id="@+id/csharp"
    android:title="C#"/>
</menu>
```

Update the following code in **MainActivity.java**

```
package com.bca.homescreen;
import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
```

```
import android.widget.Toast;

import androidx.activity.EdgeToEdge;

import androidx.annotation.NonNull;

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);

          EdgeToEdge.enable(this);

          setContentView(R.layout.activity_main);

        }

    @Override

    public boolean onCreatePanelMenu(int featureId, @NonNull Menu menu)

        { MenuInflater inflater=getMenuInflater(); inflater.inflate(R.menu.menus,menu);

          return true;

        }

    @Override

    public boolean onOptionsItemSelected(@NonNull MenuItem item)

        { if(item.getItemId()==R.id.php) {

          Toast.makeText(this, "Php Page", Toast.LENGTH_SHORT).show();

        }

          if(item.getItemId()==R.id.java) {

          Toast.makeText(this, "Java Page", Toast.LENGTH_SHORT).show();

        }

          if(item.getItemId()==R.id.csharp) {

          Toast.makeText(this, "C# Page", Toast.LENGTH_SHORT).show();
```

```
}  
    return super.onOptionsItemSelected(item);  
}  
}
```

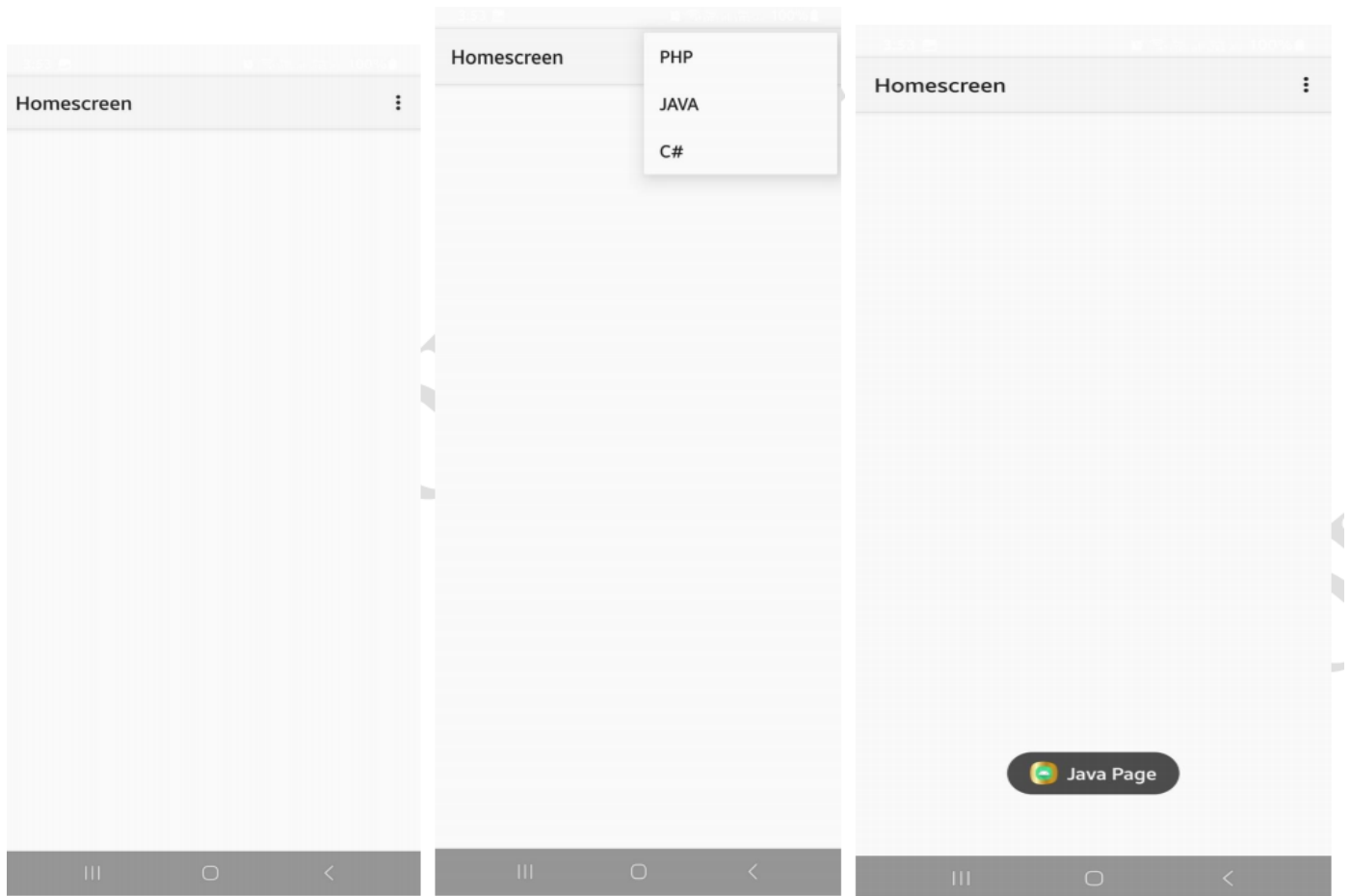
Set the UsesPermission in **AndroidManifest.xml**

```
<?xml version="1.0" encoding="utf8"?>  
  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:tools="http://schemas.android.com/tools">  
  
    <usespermission  
        android:name="android.permission.INTERNET" />  
  
    <application  
        android:allowBackup="true"  
        android:dataExtractionRules="@xml/data_extraction_rules"  
        android:fullBackupContent="@xml/backup_rules"  
        android:icon="@mipmap/ic_launcher"  
        android:label="@string/app_name"  
        android:roundIcon="@mipmap/ic_launcher_round"  
        android:supportsRtl="true"  
        android:theme="@style/Theme.AppCompat.Light" tools:targetApi="31">  
  
        <activity android:name=".MainActivity"  
            android:exported="true">  
  
            <intentfilter>  
                <action android:name="android.intent.action.MAIN" />  
                <category android:name="android.intent.category.LAUNCHER" />  
            </intentfilter>  
        </activity>  
    </application>  
</manifest>
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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">
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT



PROGRAM 7

Read/ write the Local data

activity_main.xml

```
<?xml version="1.0" encoding="utf8"?>

<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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="User Name"></TextView>

    <EditText
        android:id="@+id/etUserName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

</EditText>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Password"></TextView>

    <EditText
        android:id="@+id/etPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

</EditText>

    <Button
        android:id="@+id/btnsave"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"

        android:text="Save" />
<Button
    android:id="@+id/btnnext"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Next" />
</LinearLayout>

```

MainActivity.java

```

package com.bca.localdata;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button btnsave,btnnext;
    EditText etUserName,etPassword;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnsave=(Button) findViewById(R.id.btnsave);
        btnnext = (Button) findViewById(R.id.btnnext);
        etUserName = (EditText)findViewById(R.id.etUserName);
        etPassword = (EditText)findViewById(R.id.etPassword);
        btnsave.setOnClickListener(new View.OnClickListener() { @Override
            public void onClick(View view) {

```

```
// Writing data to SharedPreferences
```

```
    SharedPreferences sharedPreferences = getSharedPreferences("MyPrefs",
    Context.MODE_PRIVATE);

    SharedPreferences.Editor editor = sharedPreferences.edit();

    editor.putString("username",
    etUserName.getText().toString());

    editor.putString("password",
    etPassword.getText().toString());

    editor.apply();

    Toast.makeText(getApplicationContext(),"Saved
    successfully",Toast.LENGTH_LONG).show();

    }

    });

    btnnext.setOnClickListener(new View.OnClickListener() { @Override

    public void onClick(View view) {

    Intent intent = new

    Intent(getApplicationContext(),MainActivity2.class);

    startActivity(intent);

    }

    });

    }

    }
```

activity_main2.xml

```
<?xml version="1.0" encoding="utf8"?>

<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:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity2"

    android:orientation="vertical">

    <Button android:id="@+id/btnFetch"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Fetch" />
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="User Name"></TextView>
<EditText
    android:id="@+id/etUserName"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
</EditText>
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Password"></TextView>
<EditText
    android:id="@+id/etPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
</EditText>
</LinearLayout>
```

MainActivity2.java

```
package com.bca.localdata;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity2 extends AppCompatActivity {
```

```

Button btnFetch;

EditText etUserName,etPassword;

@Override

protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main2);
    btnFetch = (Button) findViewById(R.id.btnFetch);
    etUserName = (EditText)findViewById(R.id.etUserName);
    etPassword = (EditText)findViewById(R.id.etPassword);
    btnFetch.setOnClickListener(new View.OnClickListener()
    { @Override
    public void onClick(View view)
    {

```

```

// Reading data from SharedPreferences

```

```

        SharedPreferences sharedPreferences = getSharedPreferences("MyPrefs",
        Context.MODE_PRIVATE);

        String username = sharedPreferences.getString("username", "");
        String password = sharedPreferences.getString("password", "");
        etUserName.setText(username);
        etPassword.setText(password);
    }
});
}
}

```