# MOBILE APP DEVELOPMENT LAB
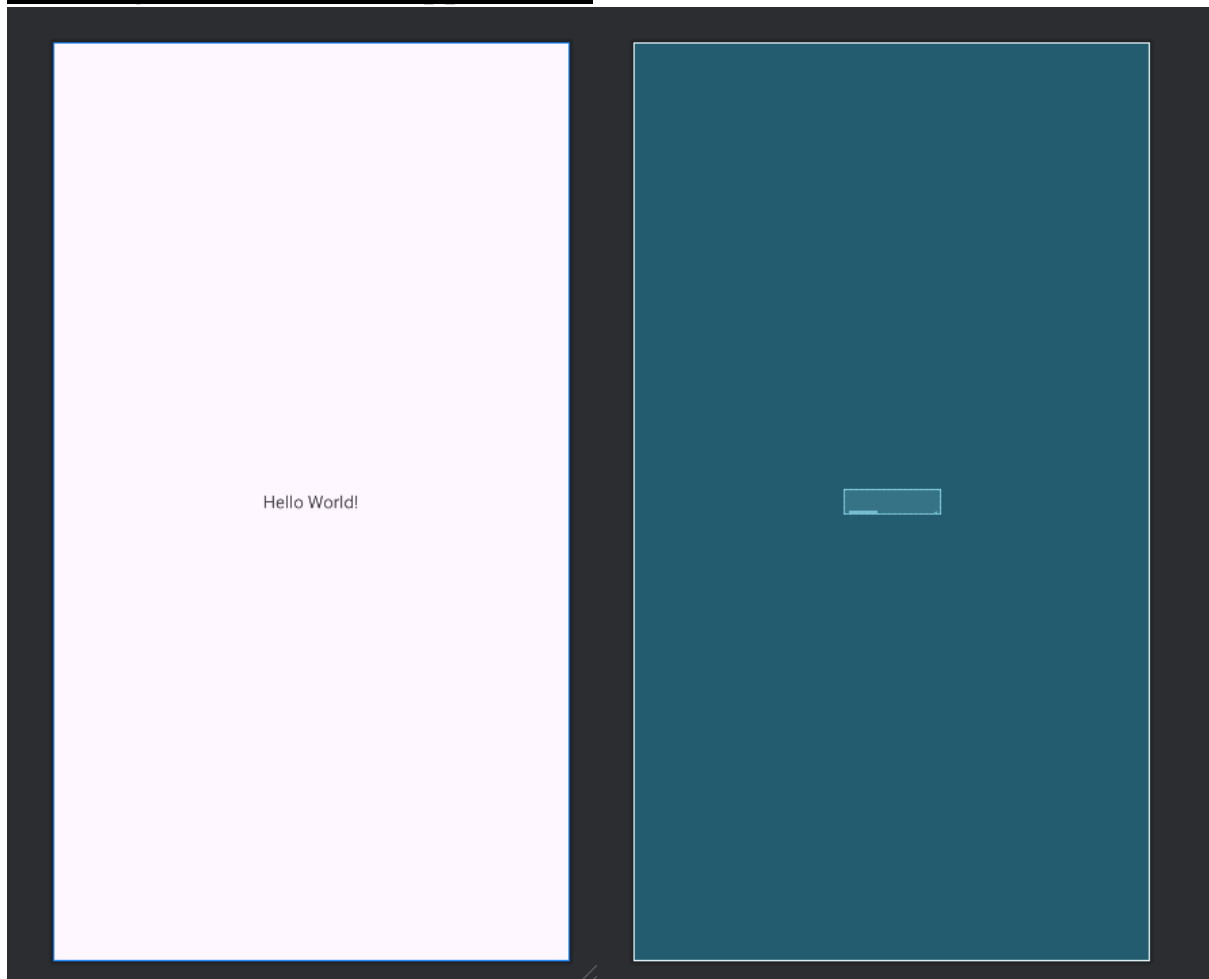
A Comprehensive Guide to Practical Exercises and Lab Programs

# Table of Content

# MADLAB-01
## Creating "Hello World" Application.



### </>activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<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">

    <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" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

**<u>MainActivity.java</u>**

```java
package com.example.lab1;

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 MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        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;
        });
    }
}
```

# <u>OUTPUT:</u>

# MAD LAB-02
## Creating an application that displays message based on the screen orientation.

**</>activity_main.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<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">

    <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" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

**MainActivity.java**

```java
package com.example.lab2;

import android.content.res.Configuration;
import android.os.Bundle;
import android.widget.Toast;

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);
        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);
```
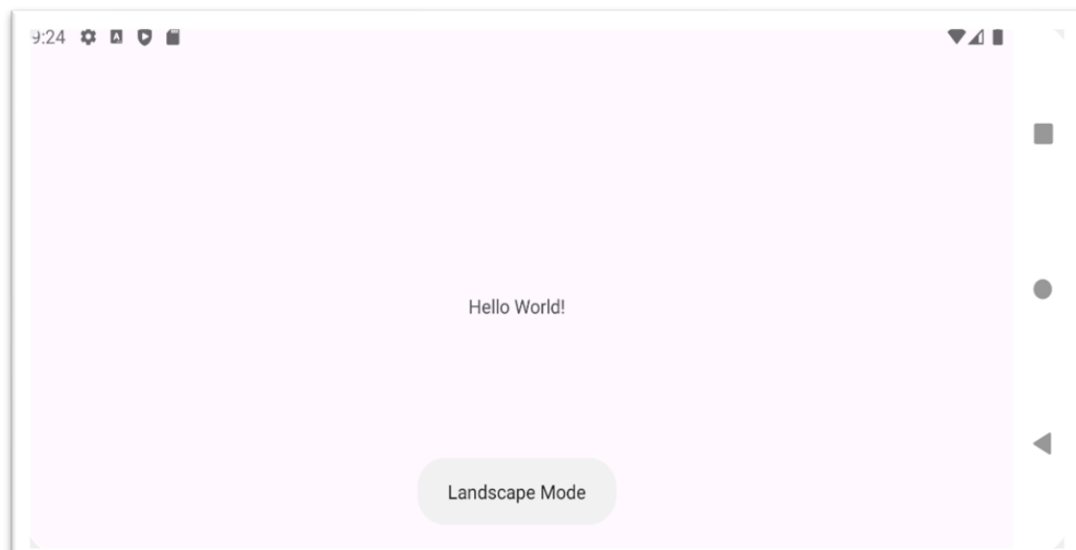
```
        return insets;
    });

    int orientation = getResources().getConfiguration().orientation;

    if (orientation == Configuration.ORIENTATION_LANDSCAPE) {
        Toast.makeText(this, "Landscape Mode", Toast.LENGTH_LONG).show();
    } else if (orientation == Configuration.ORIENTATION_PORTRAIT) {
        Toast.makeText(this, "Portrait Mode", Toast.LENGTH_LONG).show();
    }

  }
}
```
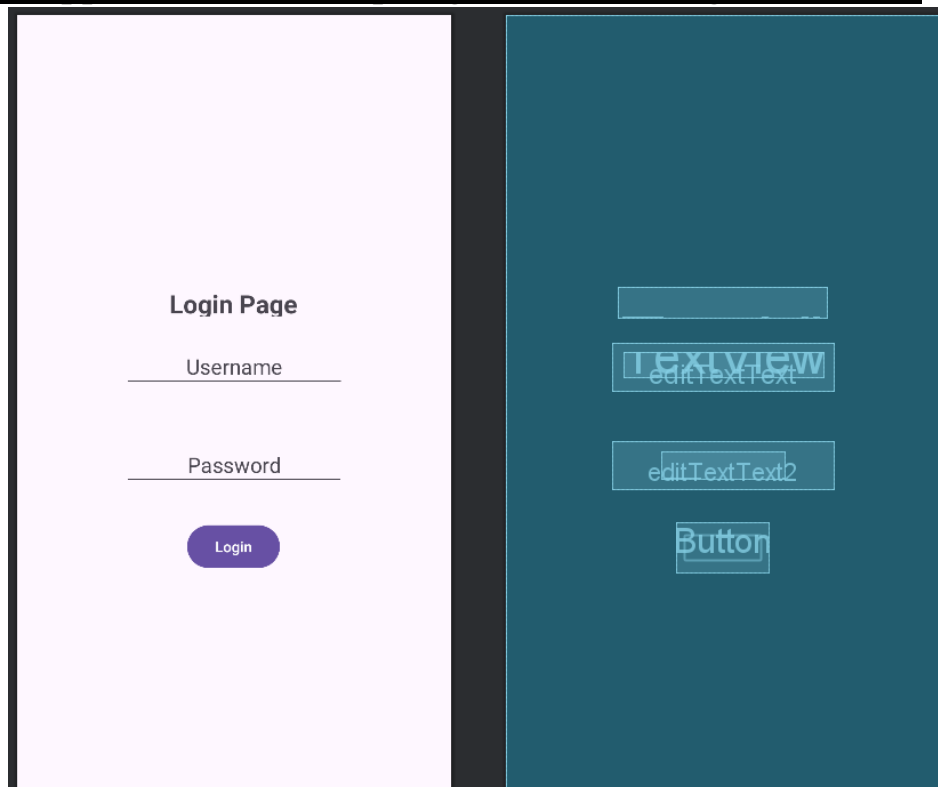
## Output:

# MADLAB-03
# Create an application to develop Login window using UI controls.



**</>activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="198dp"
        android:layout_height="29dp"
        android:text="Login Page"
        android:textAlignment="center"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.366" />
```

```xml
<EditText
    android:id="@+id/editTextText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="24dp"
    android:ems="10"
    android:inputType="text"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.502"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2" />

<EditText
    android:id="@+id/editTextText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="48dp"
    android:ems="10"
    android:inputType="text"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextText" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextText2"
    app:layout_constraintVertical_bias="0.134" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="189dp"
    android:layout_height="24dp"
    android:text="Username"
    android:textAlignment="center"
    android:textAllCaps="false"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="@+id/editTextText"
    app:layout_constraintEnd_toEndOf="@+id/editTextText"
    app:layout_constraintHorizontal_bias="0.476"
    app:layout_constraintStart_toStartOf="@+id/editTextText"
    app:layout_constraintTop_toTopOf="@+id/editTextText"
    app:layout_constraintVertical_bias="0.428" />
```

```xml
    <TextView
        android:id="@+id/textView4"
        android:layout_width="117dp"
        android:layout_height="26dp"
        android:text="Password"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="@+id/editTextText2"
        app:layout_constraintEnd_toEndOf="@+id/editTextText2"
        app:layout_constraintStart_toStartOf="@+id/editTextText2"
        app:layout_constraintTop_toTopOf="@+id/editTextText2" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

**<u>MainActivity.java</u>**

```java
package com.example.mad3;

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;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

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);
        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;
        });

        editTextUsername=findViewById(R.id.editTextText);
        editTextPassword=findViewById(R.id.editTextText2);
        buttonLogin=findViewById(R.id.button);
        buttonLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username=editTextUsername.getText().toString().trim();
                String password=editTextPassword.getText().toString().trim();
```
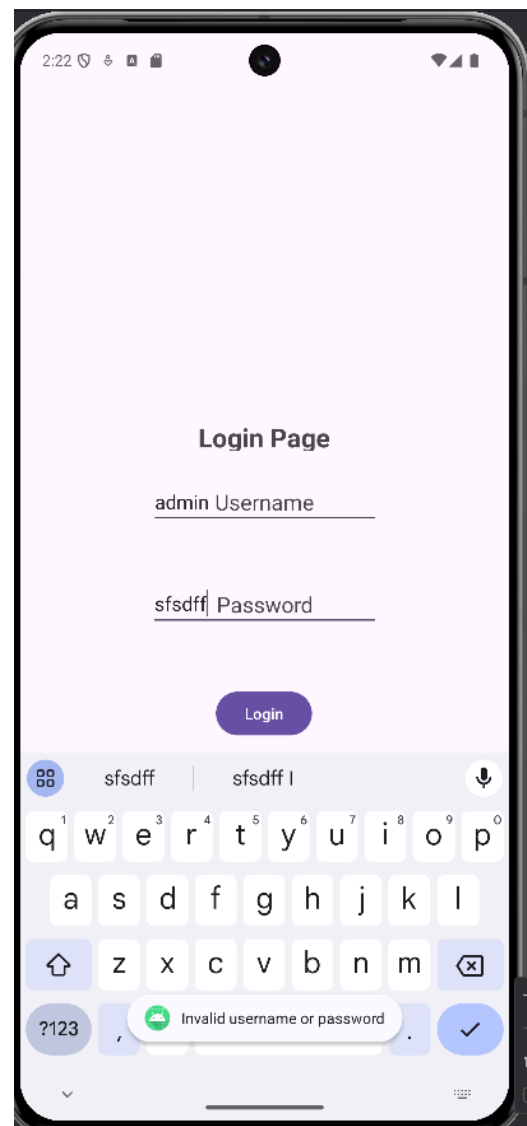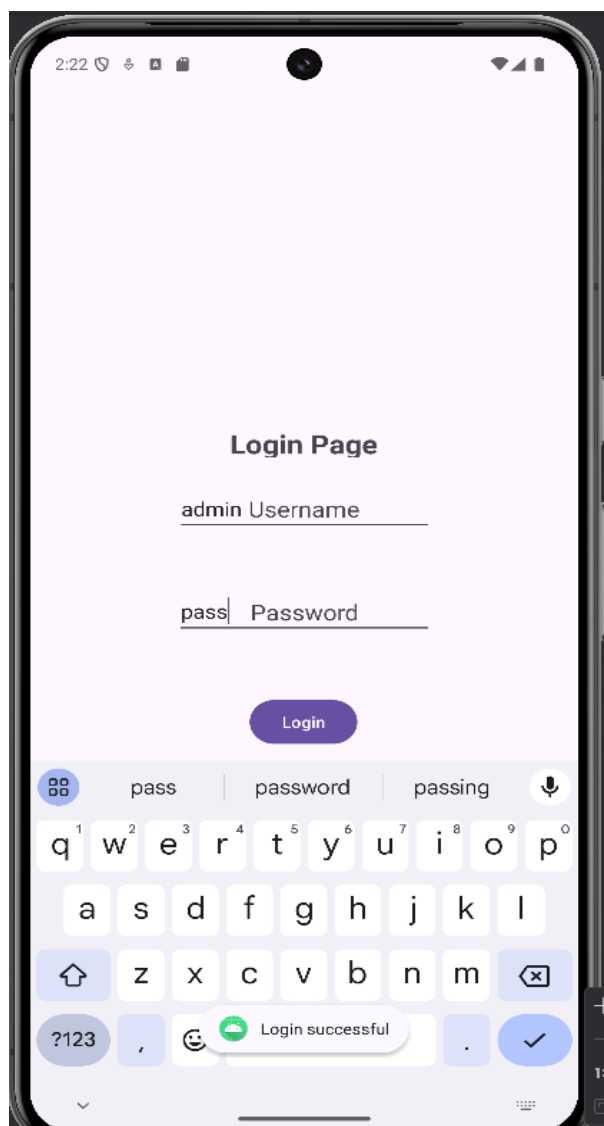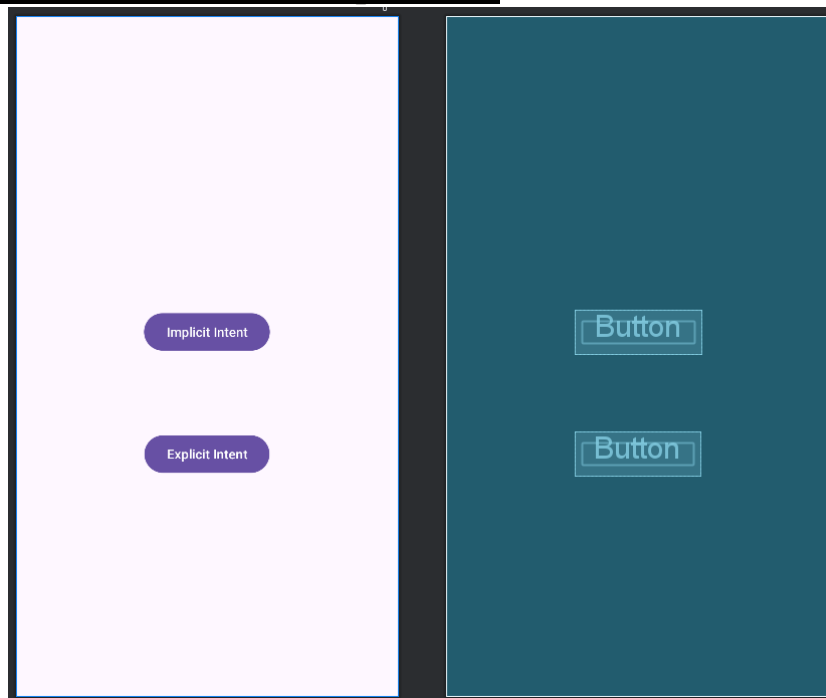
```
        if(username.equals("admin")&&password.equals("pass")) {
            Toast.makeText(MainActivity.this, "Login successful",
Toast.LENGTH_SHORT).show();
        }
        else {
            Toast.makeText(MainActivity.this, "Invalid username or password",
Toast.LENGTH_SHORT).show();
        }
      }
    });
  }
}
```

## OUTPUT:

**MADLAB-04**
**Creating an application to implement new activity using explicit intent,implicit intent and content provider.**



**</>activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<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">


    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="onImplicitButtonClicked"
        android:text="Implicit Intent"
        app:layout_constraintBottom_toTopOf="@+id/button2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.791" />


    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
```

```
      android:layout_height="wrap_content"
      android:layout_marginBottom="236dp"
      android:onClick="onExplicitButtonClicked"
      android:text="Explicit Intent"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout >
```

## </>ActivityMain.java

```
package com.example.mad4;

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 {
    private Intent NewActivity;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        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;
});
    }

    public void onImplicitButtonClicked(View view) {
        Uri url = Uri.parse("http://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);
    }
}
```
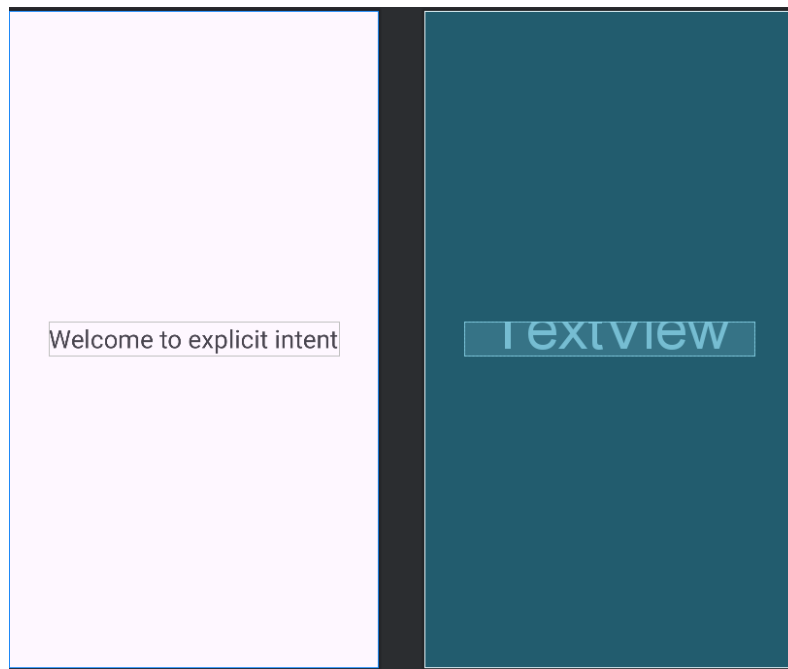
**</>activity_new.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<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="28dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.499"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

**</>NewActivity.java**

```java
package com.example.mad4;

import android.os.Bundle;

import androidx.activity.EdgeToEdge;
```
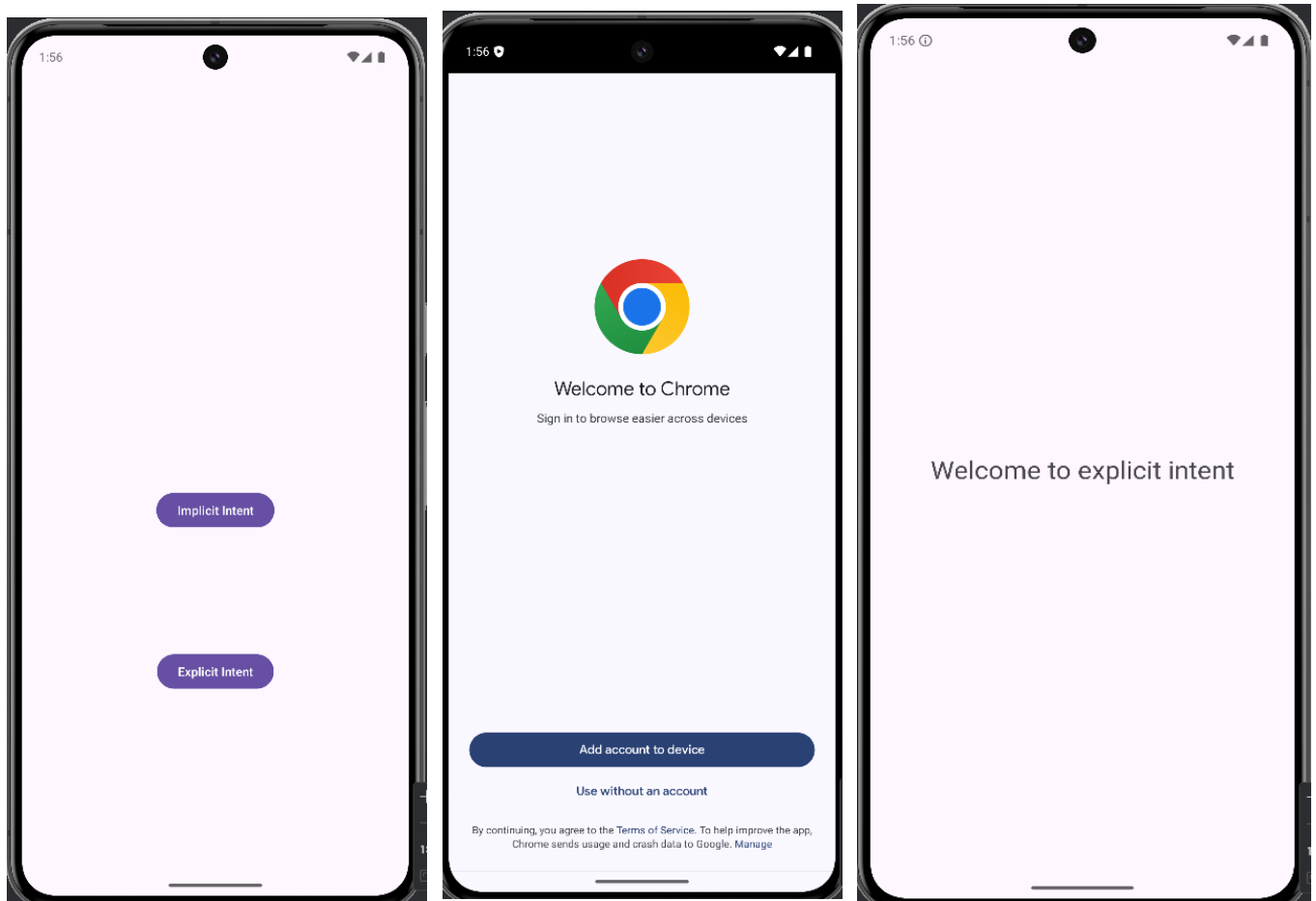
```java
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class NewActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_new);
        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:

# MADLAB-05

**Create an application that displays custom designed Opening Screen.**



**</>activity_main.xml**

```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/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>
```

**</>MainActivity.java**

```java
package com.example.mad5;

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;
```
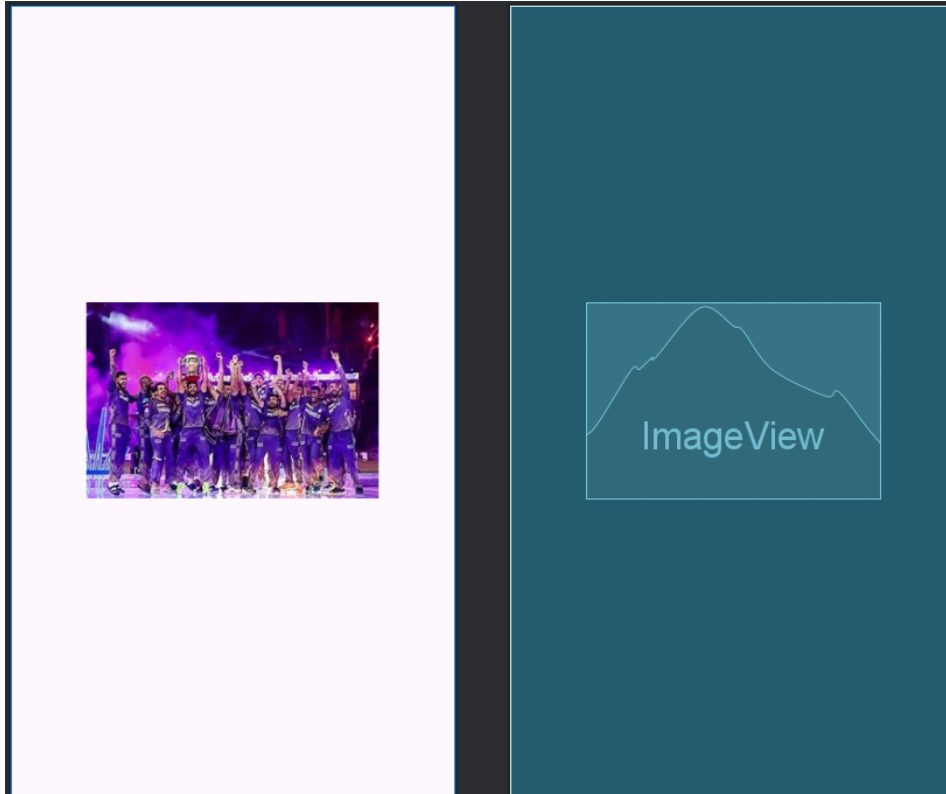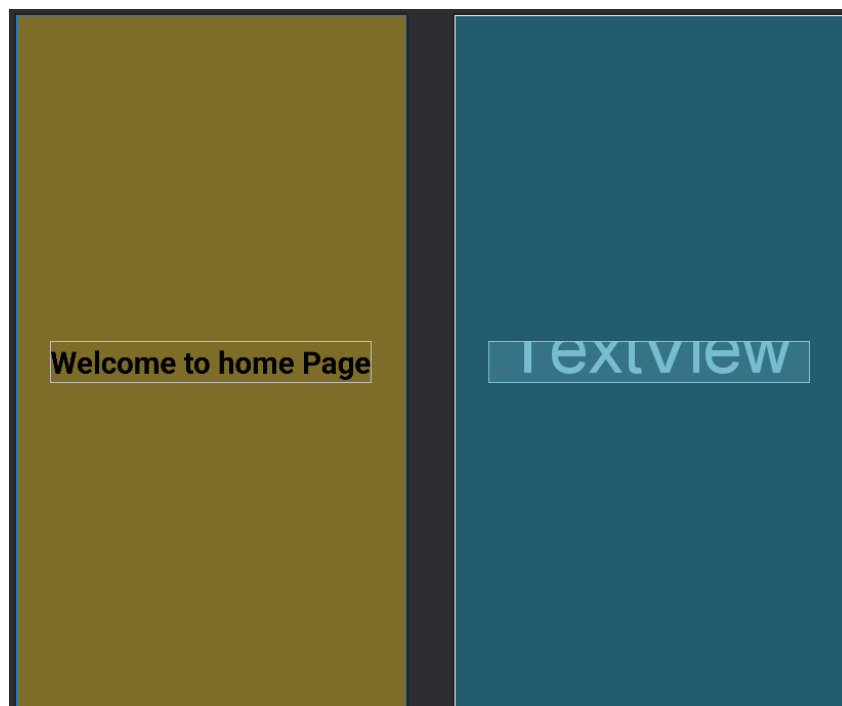
```
import androidx.core.view.WindowInsetsCompat;

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);
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;
});

        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);
    }
}
```

**</>activity_mainscreen.xml**

```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/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>
```

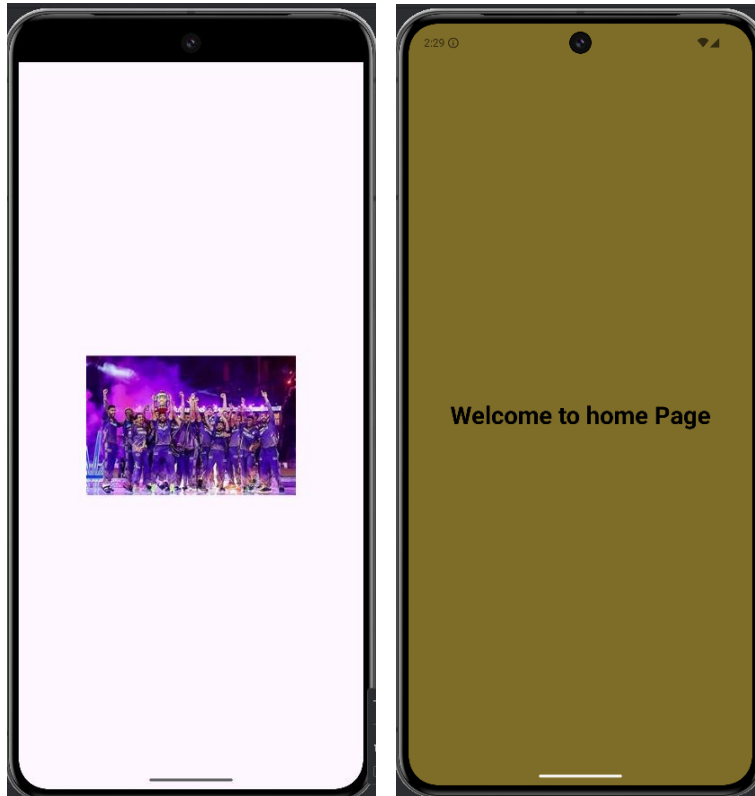**</>MainScreen.java**

```java
package com.example.mad5;

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;
        });
    }
}
```
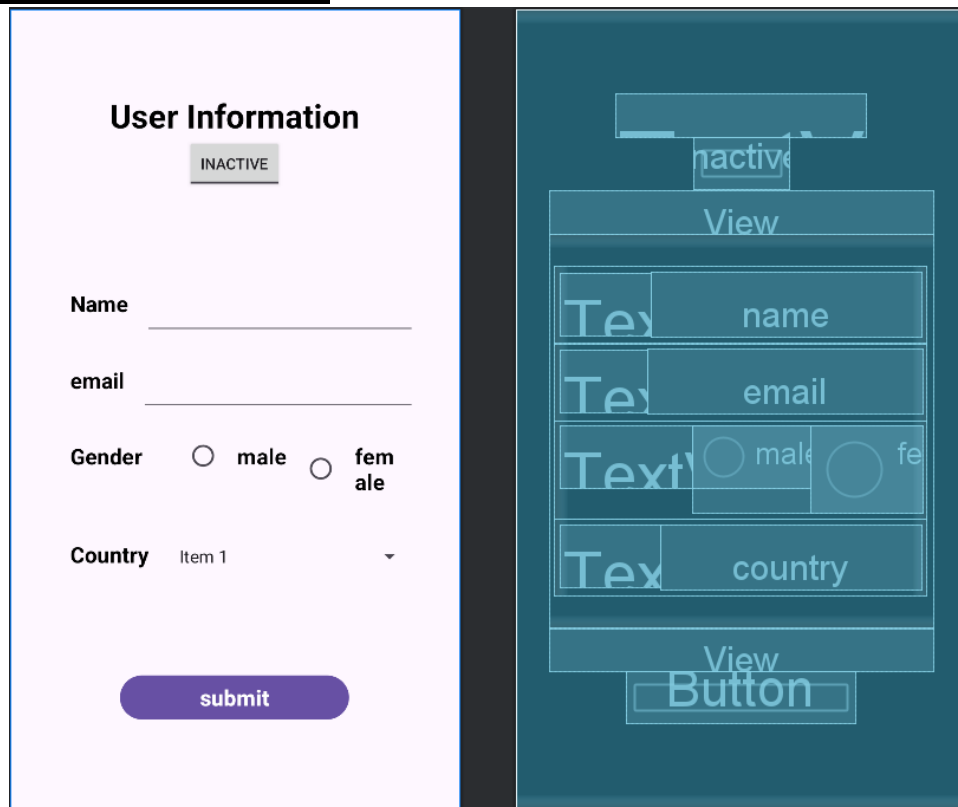
# Create an UI with all views.



**</>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"
    android:padding="30dp"
    android:orientation="vertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="User Information"
        android:textSize="30sp"
        android:textStyle="bold"
        android:textColor="@color/black"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```
<ToggleButton
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textOn="Active"
    android:textOff="Inactive"/>

<View
    android:layout_width="match_parent"
    android:layout_height="40dp"/>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:paddingTop="30dp"
    android:paddingBottom="30dp"
    android:paddingLeft="5dp"
    android:paddingRight="5dp"
    android:orientation="vertical">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:padding="5dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Name"
            android:textSize="20sp"
            android:textStyle="bold"
            android:textColor="@color/black"
            android:padding="15dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="60dp"
            android:id="@+id/name"
            android:padding="15dp"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:padding="5dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="email"
            android:textSize="20sp"
            android:textStyle="bold"
```

```xml
            android:textColor="@color/black"
            android:padding="15dp"/>

        <EditText
            android:layout_width="match_parent"
            android:layout_height="60dp"
            android:id="@+id/email"
            android:ems="10"
            android:inputType="textEmailAddress"
            android:padding="15dp"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:padding="5dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Gender"
            android:textSize="20sp"
            android:textStyle="bold"
            android:textColor="@color/black"
            android:padding="15dp"
            android:paddingEnd="40dp"/>

        <RadioGroup
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:id="@+id/gender">
            <RadioButton
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/male"
                android:padding="15dp"
                android:textColor="@color/black"
                android:text="male"
                android:textSize="20sp"
                android:textStyle="bold"/>

            <RadioButton
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/female"
                android:text="female"
                android:padding="15dp"
                android:textColor="@color/black"
                android:textSize="20sp"
```

```
                    android:textStyle="bold"/>

            </RadioGroup>

        </LinearLayout>

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:padding="5dp">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Country"
                android:textSize="20sp"
                android:textStyle="bold"
                android:textColor="@color/black"
                android:padding="15dp"
                android:paddingEnd="5dp"/>


            <Spinner
                android:layout_width="match_parent"
                android:layout_height="60dp"
                android:id="@+id/country"
                android:padding="15dp"/>
        </LinearLayout>
    </LinearLayout>

    <View
        android:layout_width="match_parent"
        android:layout_height="40dp"/>

    <Button
        android:layout_width="210dp"
        android:layout_height="wrap_content"
        android:id="@+id/submit"
        android:text="submit"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold"/>

</LinearLayout>
```

<u>**</>MainActivity.java**</u>

package com.example.mad6;

import android.content.Context;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.Spinner;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

import java.lang.reflect.Array;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        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;
});

        **Button sub=findViewById(R.id.*submit*);**

        **sub.setOnClickListener(new View.OnClickListener() {**
          **@Override**
          **public void onClick(View v) {**
             **showMessage(MainActivity.this,"user information","successfully completed");**
          **}**
        **});**
        **String[] item=new String[]{"India","Pakistan","China","America","England"};**
        **ArrayAdapter adapter= new ArrayAdapter<>(this,**
**android.R.layout.*simple_spinner_item*,item);**
        **adapter.setDropDownViewResource(android.R.layout.*simple_spinner_dropdown_item*);**

        **Spinner spinner=findViewById(R.id.*country*);**
        **spinner.setAdapter(adapter);**
    **}**
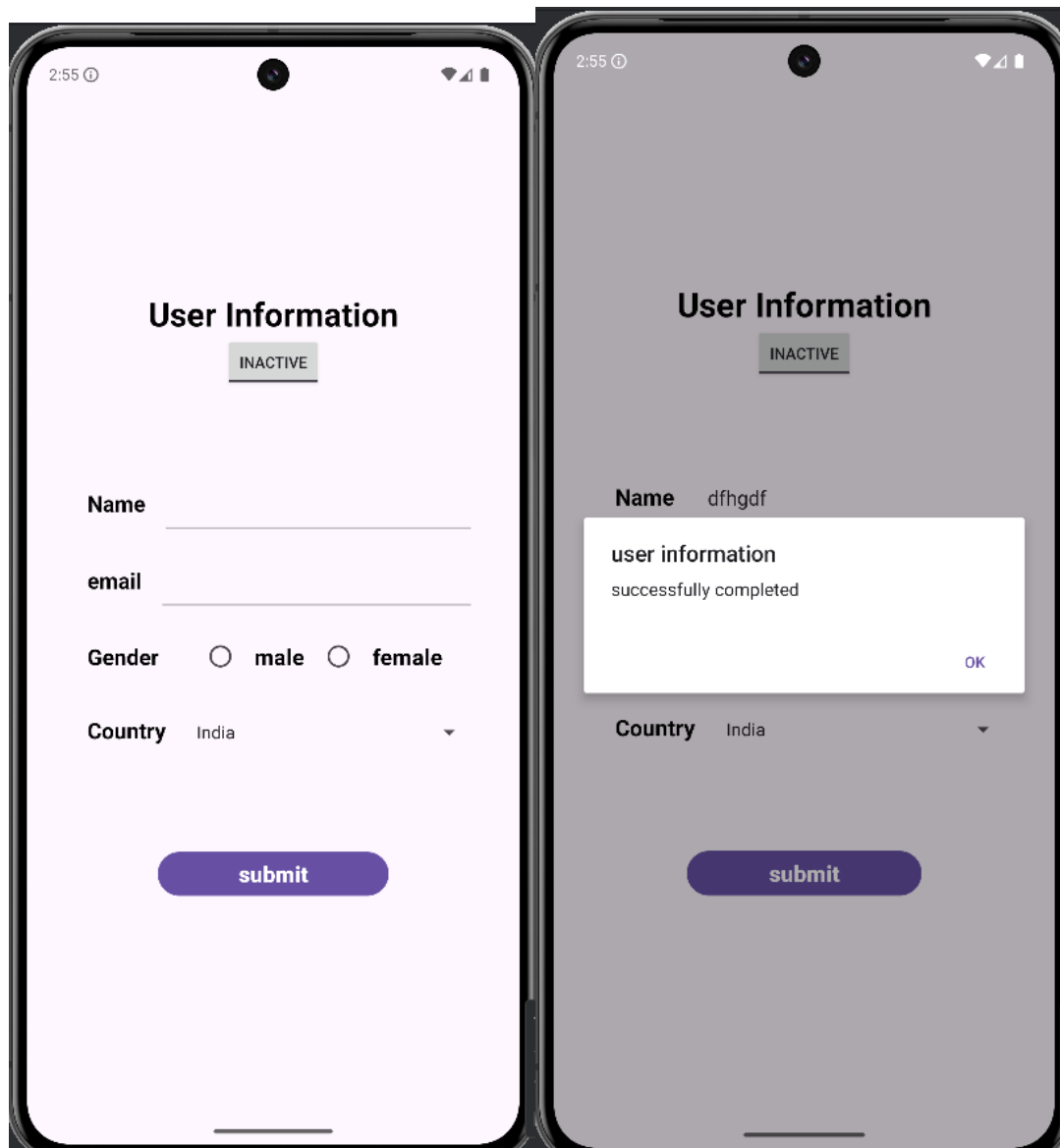    **public void showMessage(Context con,String t,String msg){**

```
AlertDialog.Builder builder = new AlertDialog.Builder(con);
builder.setTitle(t);
builder.setMessage(msg);
builder.setPositiveButton("OK", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog, int which) {
        dialog.dismiss();
    }
});
builder.show();
    }

}
```

# OUTPUT:

# MADLAB-07

## Create menu in Application.

**</>activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 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">
</androidx.constraintlayout.widget.ConstraintLayout>
```

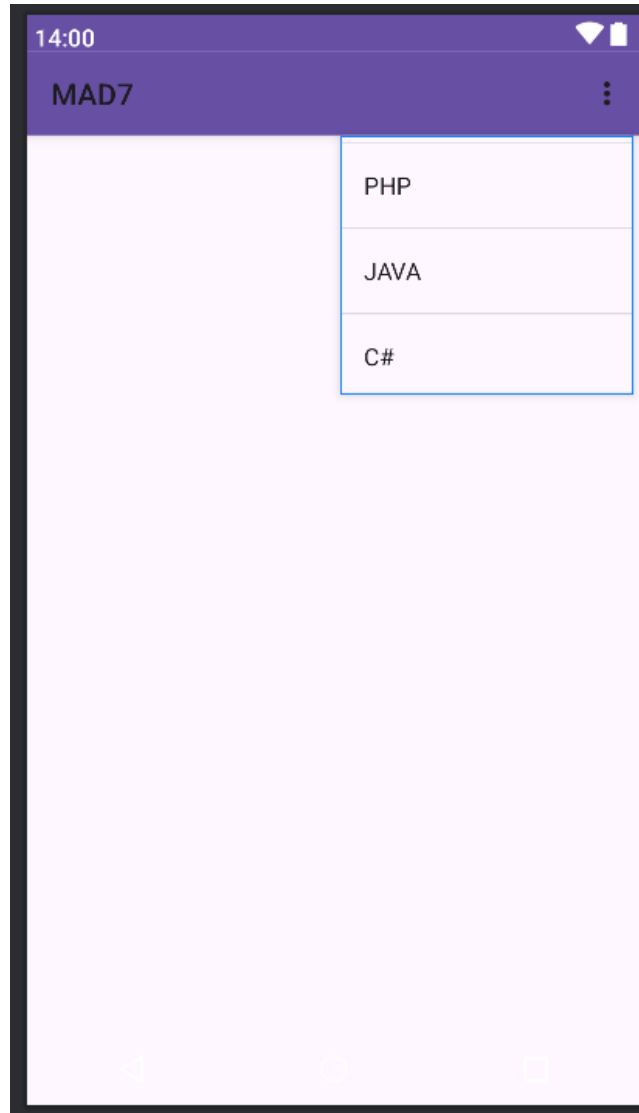**</>MainActivity.java**

```
package com.example.mad7;

import android.os.Bundle;
import android.view.Menu;
import androidx.activity.EdgeToEdge;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.view.MenuItem;
import android.view.MenuInflater;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState); 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;
});

    }
    @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);

   }
}
```
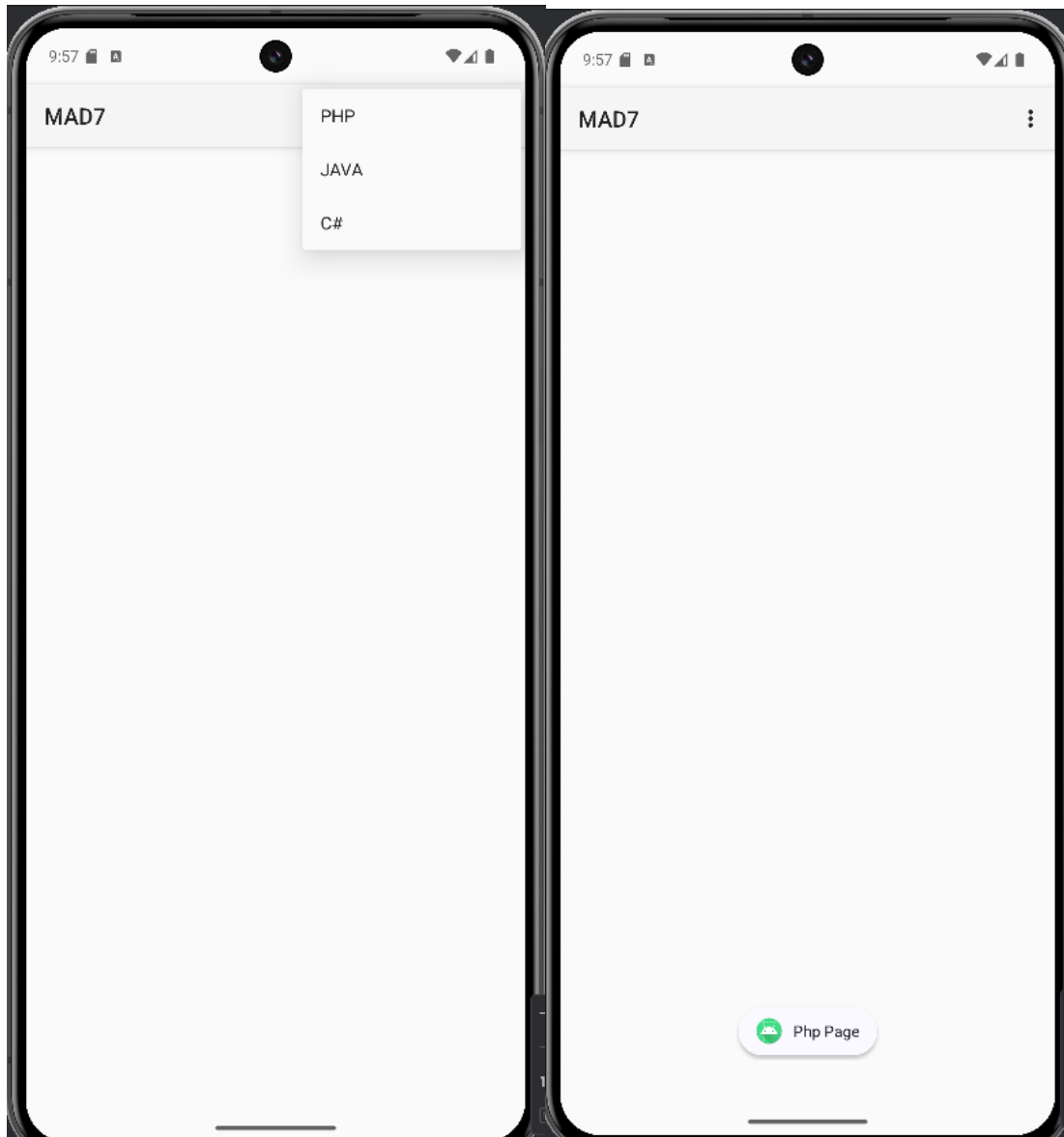


**</>menus.xml**
```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
   <item android:id="@+id/php"
      android:title="PHP"/>
   <item android:id="@+id/java"
      android:title="JAVA"/>
   <item android:id="@+id/py"
      android:title="PYTHON"/>

</menu>
```
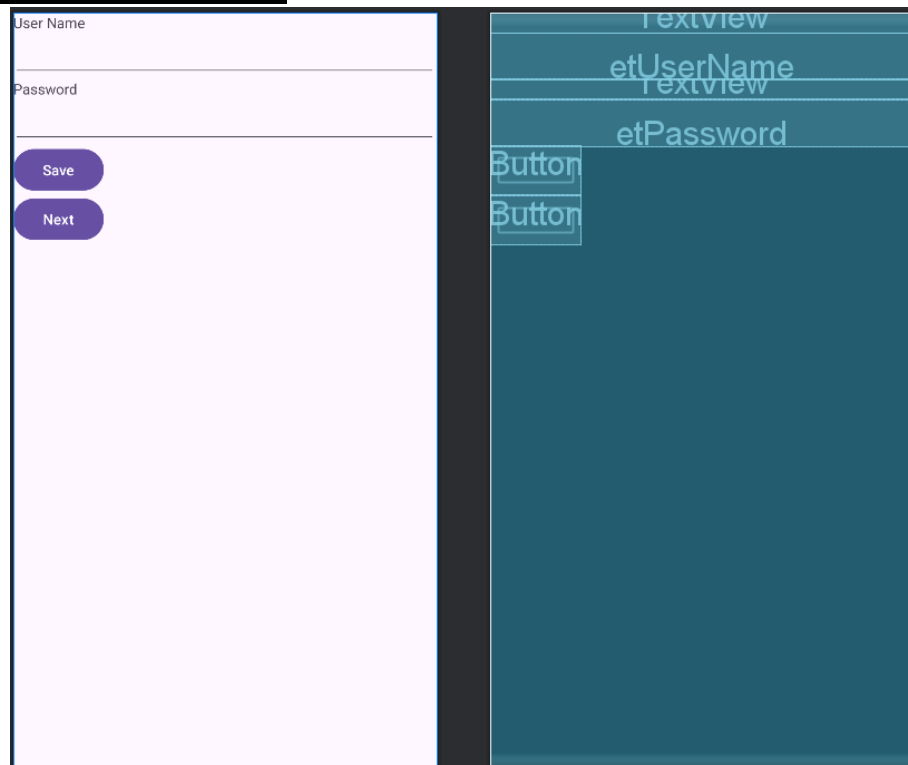
</>AndroidManifest.xml

**android:theme="@style/Theme.AppCompat.Light.DarkActionBar"**

**OUTPUT:**

# MADLAB-08

## Read/write the Local data.



**</>activity_main.xml**

```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">

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

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

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

```
        </TextView>

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

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

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

**</>MainActivity.java**

```
package com.example.mad8;

import static com.example.mad8.R.id.etUserName;

import android.annotation.SuppressLint;
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;

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);
            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);
```

```java
    return insets;
});

    Button btnsave = findViewById(R.id.btnsave);
    Button btnnext = findViewById(R.id.btnnext);

    EditText etUserName = findViewById(R.id.etUserName);
    EditText etPassword = findViewById(R.id.etPassword);

    btnsave.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            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);
        }
    });

  }
}
```

**AndroidManifest.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<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:supportsRtl="true"
        android:theme="@style/Theme.Mad8"
        tools:targetApi="31">
```
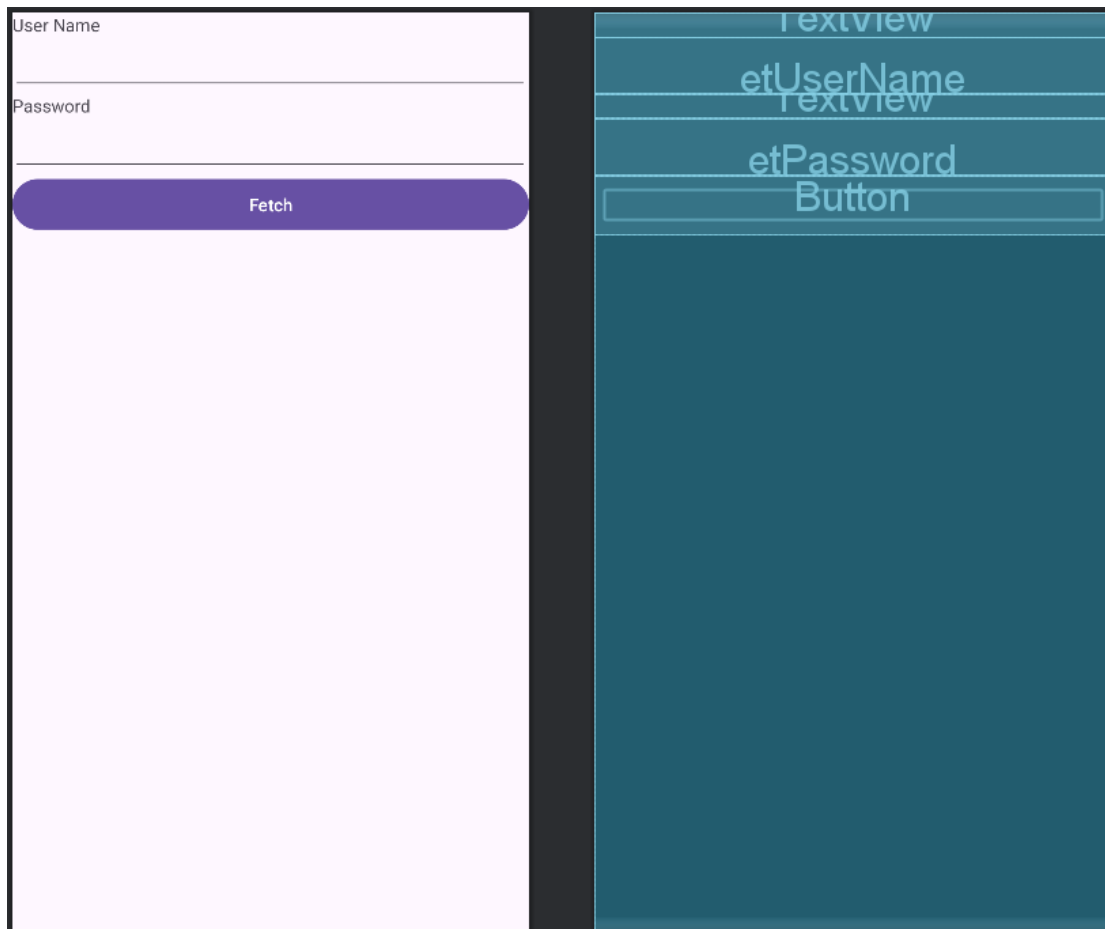
```
        <activity
            android:name=".MainActivity2"
            android:exported="false" />
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```



**</>activity_main2.xml**

```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=".MainActivity2"
    android:orientation="vertical">
```

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

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

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

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

    <Button
        android:id="@+id/btnFetch"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Fetch" />

</LinearLayout>
</>
```

**</>MainActivity2.java**

```java
        package com.example.mad8;

import android.annotation.SuppressLint;
import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

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 MainActivity2 extends AppCompatActivity {
```
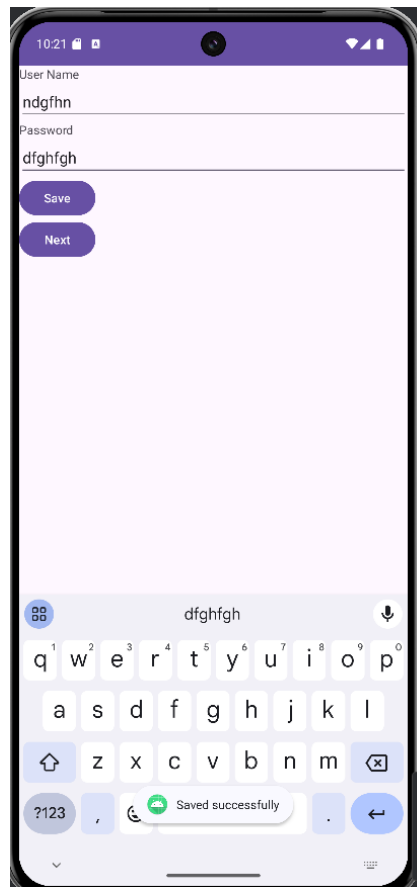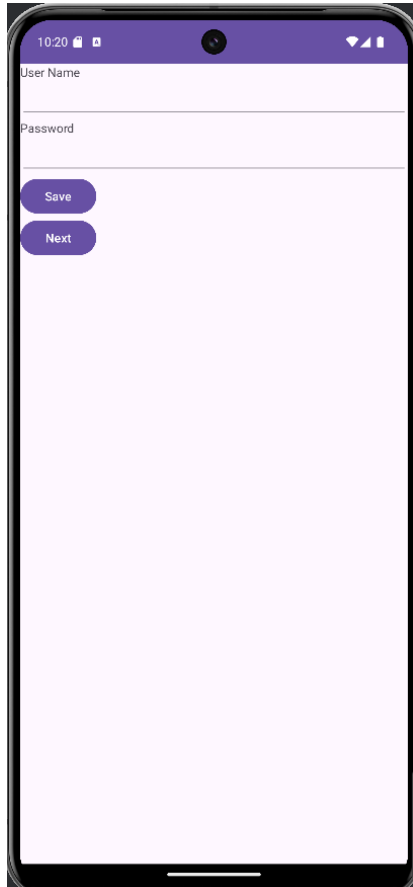
```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main2);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
return insets;
});
    Button btnFetch= findViewById(R.id.btnFetch);
    EditText etUserName = findViewById(R.id.etUserName);
    EditText etPassword = findViewById(R.id.etPassword);

    btnFetch.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View view) {
        SharedPreferences sharedPreferences = getSharedPreferences("MyPrefs",
Context.MODE_PRIVATE);
        String username = sharedPreferences.getString("username","");
        String password = sharedPreferences.getString("Password","");
        etUserName.setText(username);
        etPassword.setText(password);


      }
    });
  }                                                                            }
```
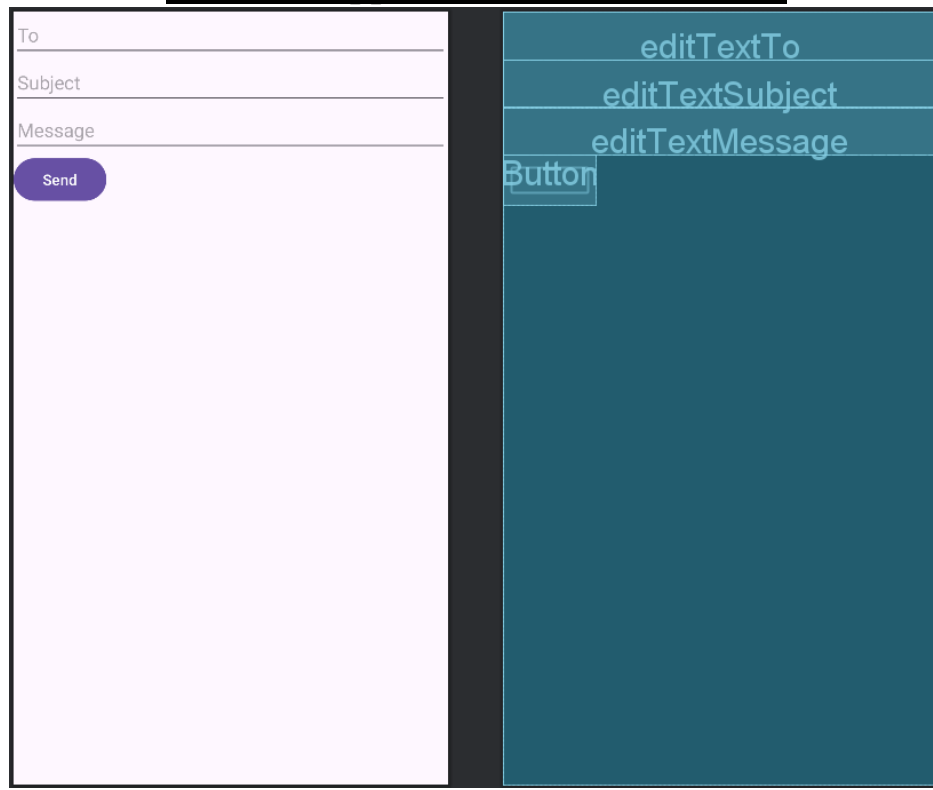**OUTPUT:**

## MADLAB-09
## Create an application to send an email.



**</>activity_main.xml**

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/editTextTo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="To"/>
    <EditText
        android:id="@+id/editTextSubject"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextTo"
        android:hint="Subject"/>
    <EditText
        android:id="@+id/editTextMessage"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextSubject"
        android:hint="Message"/>
    <Button
        android:id="@+id/buttonSend"
        android:layout_width="wrap_content"
```
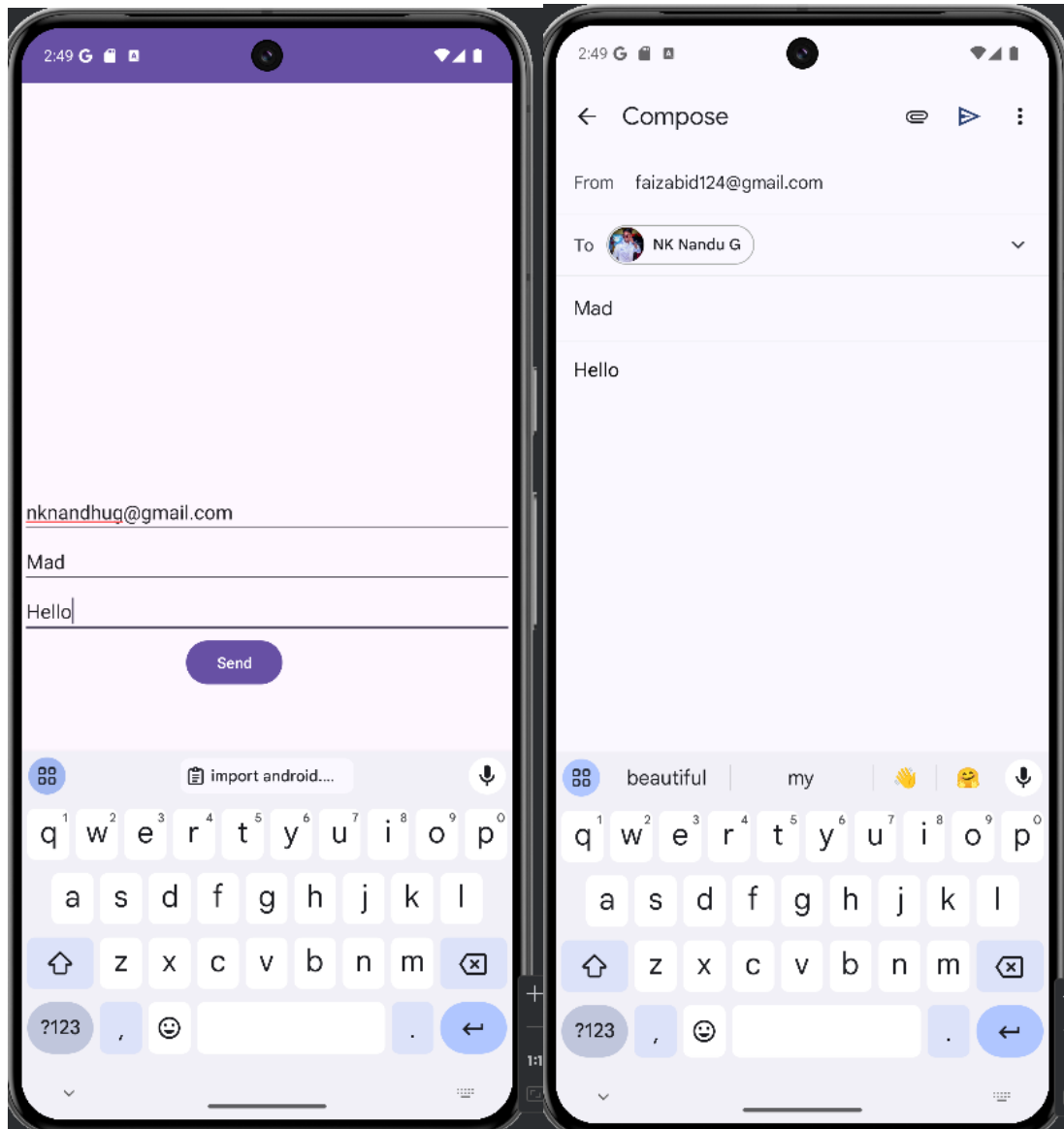
```
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextMessage"
        android:text="Send"/>>
</RelativeLayout>
```

**</>MainActivity.java**

```java
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    EditText editTextTo, editTextSubject, editTextMessage;
    Button buttonSend;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        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;
});
        editTextTo = findViewById(R.id.editTextTo);
        editTextSubject = findViewById(R.id.editTextSubject);
        editTextMessage = findViewById(R.id.editTextMessage);
        buttonSend = findViewById(R.id.buttonSend);
        buttonSend.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v)
            {
                sendEmail();
            }
        });
    }

    @SuppressLint("QueryPermissonsNeeded")
    private void sendEmail(){
        String to = editTextTo.getText().toString().trim();
        String subject = editTextSubject.getText().toString().trim();
        String message = editTextMessage.getText().toString().trim();
        Intent intent = new Intent(Intent.ACTION_SEND);
        intent.setType("text/plain");
        intent.putExtra(Intent.EXTRA_EMAIL,new String[]{to});
        intent.putExtra(Intent.EXTRA_SUBJECT,subject);
        intent.putExtra(Intent.EXTRA_TEXT,message);
        if(intent.resolveActivity(getPackageManager())!=null)
        {
            startActivity(Intent.createChooser(intent,"Choose an email client"));
        }
```

```
        }
    }
```

**<u>OUTPUT:</u>**

# MADLAB-10
## Demonstration to deploy android applications.

**</>acivity_main.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<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">

    <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" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

**</>MainActivity.java**

```java
package com.example.madlab13;

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 MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        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;
        });
    }
}
```

Steps to create APK file
(create a folder in windows c - user-user-documnets
in documents create a folder myskeystore - create a filename.jsk)
1. Go to build
2. select generate signed bundle/ APK
3. select APK and click on Next
4. create new Keystore path
5. select mykeystore path
6. set password of your choice and confirm
7. for certificate type mablab14 in all the fields, enter city start and country code
8. click ok
9. select release and click create.

Steps for deploy APK
1. go to build
2. select build bundle/ apk - build apk
3. Pop message will be appear ( build apk is generated )
4. go to windows C - user-user-androidprojects-madlab14-app-build-outputs-apk-debug
5. share app-debug.apk to whatsapp
6. download in your phone and run.

**OUTPUT:**



4G 11:23     LTE

Hello World!