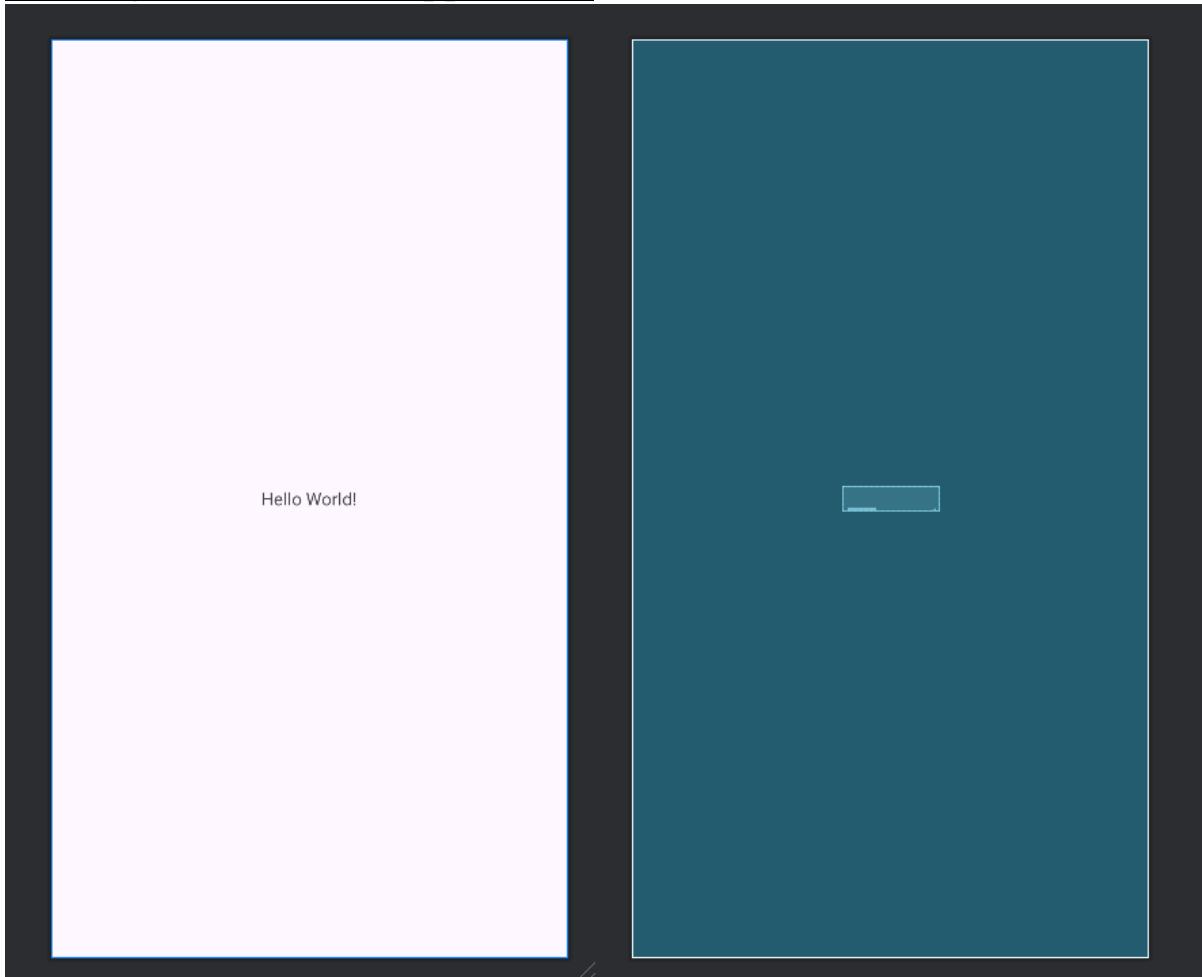


MADLAB-01

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>
```

MainActivity.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 {

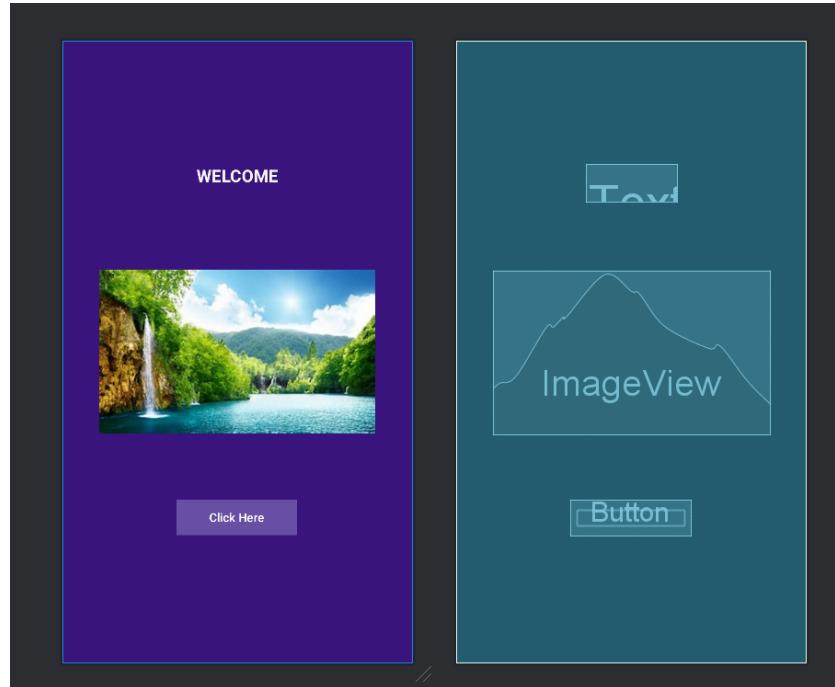
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets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

OUTPUT:



MAD LAB-02

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



</>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"
    android:background="#39147C"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="107dp"
        android:layout_height="44dp"
        android:text="WELCOME"
        android:textAlignment="center"
        android:textColor="#F6F5F5"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.211" />
```

```
<ImageView
    android:id="@+id/imageView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:srcCompat="@drawable/back" />

<Button
    android:id="@+id/button2"
    android:layout_width="142dp"
    android:layout_height="42dp"
    android:background="#5E1111"
    android:backgroundTint="#8E4F4F"
    android:text="Click Here"
    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/imageView2"
    app:layout_constraintVertical_bias="0.343"
    app:rippleColor="#915A5A" />

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

MainActivity.java

```
package com.example.lab2;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

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

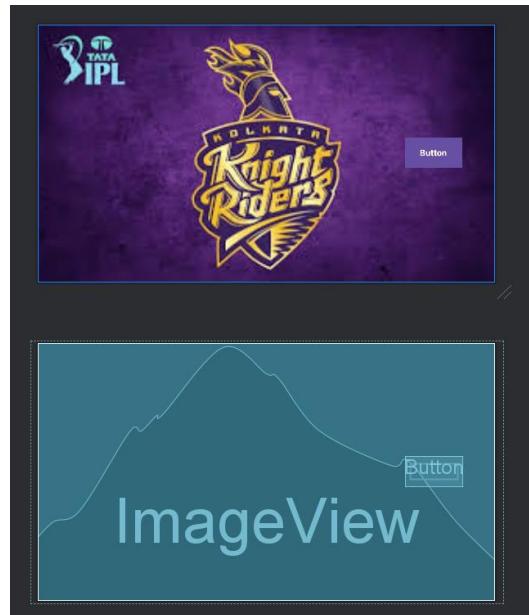
public class MainActivity extends AppCompatActivity {
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
```

```
Button clickHereButton=findViewById(R.id.button2);

clickHereButton.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View v) {
        Intent intent = new Intent(MainActivity.this, MainActivity2.class);
        startActivity(intent);
    }
});

});

}
```



```
</>activity_main2.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=".MainActivity2">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="756dp"
        android:layout_height="420dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.52"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
```

```
    app:layout_constraintVertical_bias="0.555"
    app:srcCompat="@drawable/download" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#A83535"
    android:backgroundTint="#572D2D"
    android:text="Button"
    android:textAlignment="center"
    android:textStyle="bold"
    app:iconTint="#9F5656"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.921"
    app:layout_constraintStart_toStartOf="@+id/imageView"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.498"
    app:strokeColor="#D59595" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```
package com.example.lab2;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

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 {
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main2);
        Button clickHereButton=findViewById(R.id.button);

        clickHereButton.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
```

```
        Intent intent = new Intent(MainActivity2.this, MainActivity.class);
        startActivity(intent);
    }
});
}
}

AndroidManifest.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.Lab2"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity2"
            android:exported="false"
            android:screenOrientation="landscape"/>
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

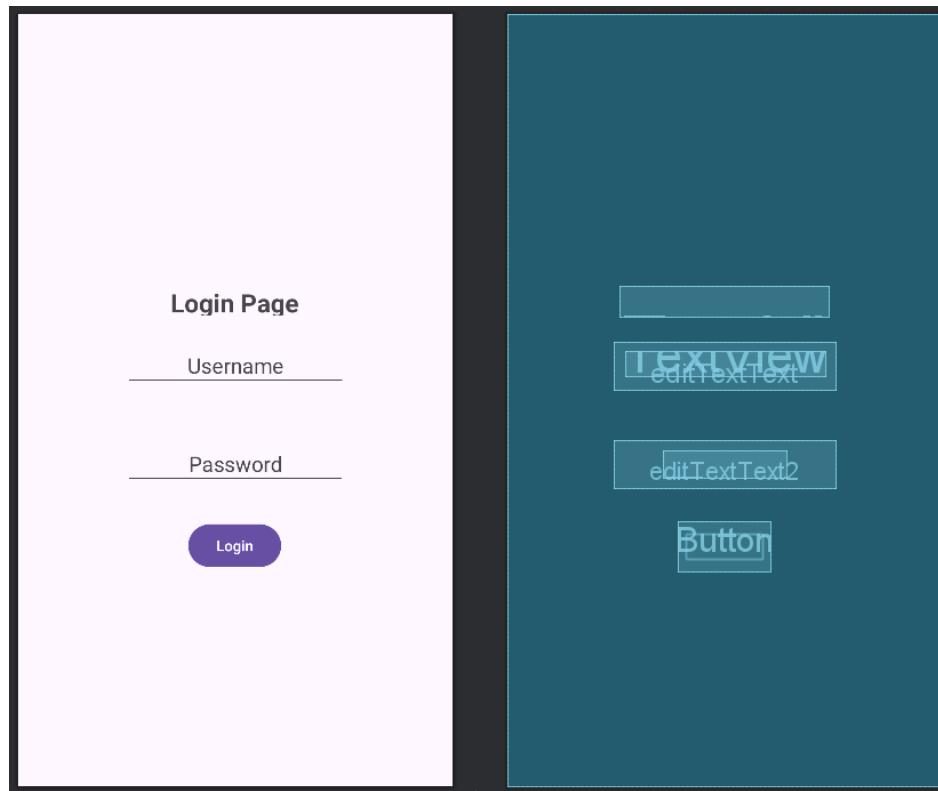
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

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" />
```

```
<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" />

<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>
MainActivity.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;

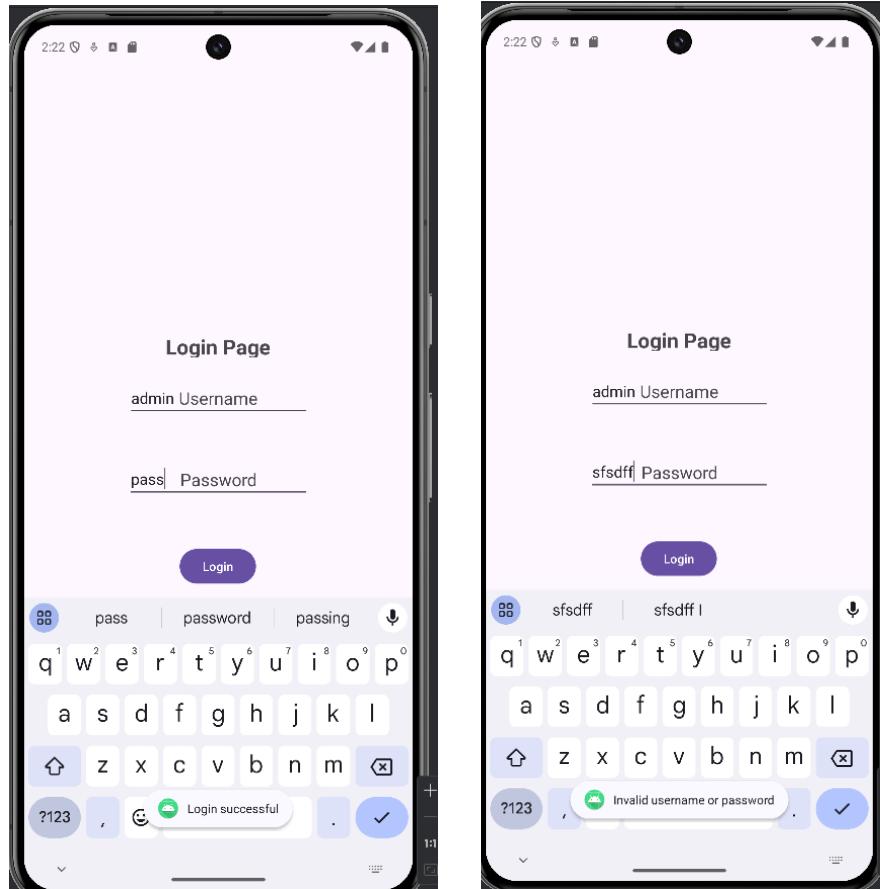
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

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

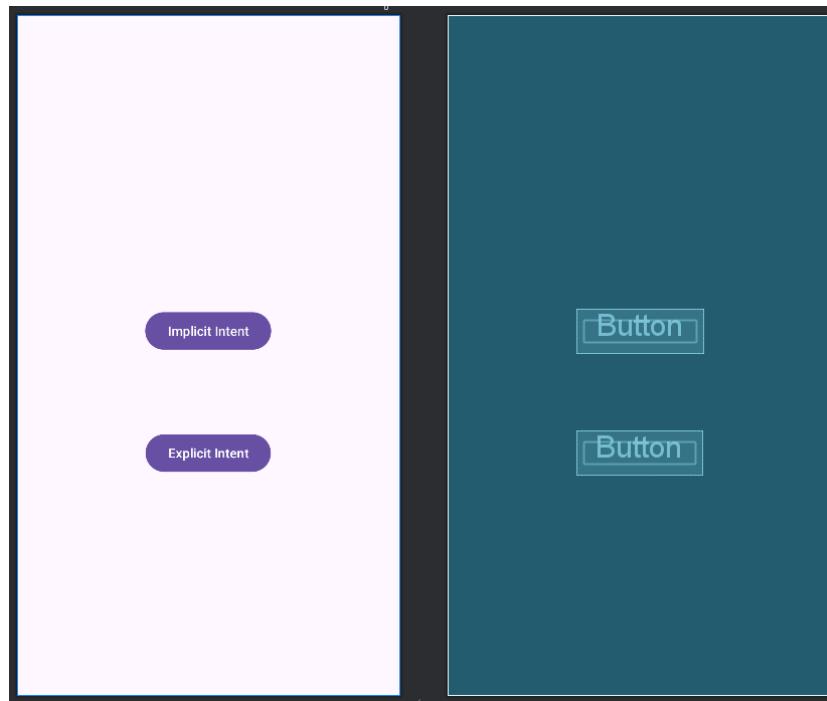
```
}
```

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;

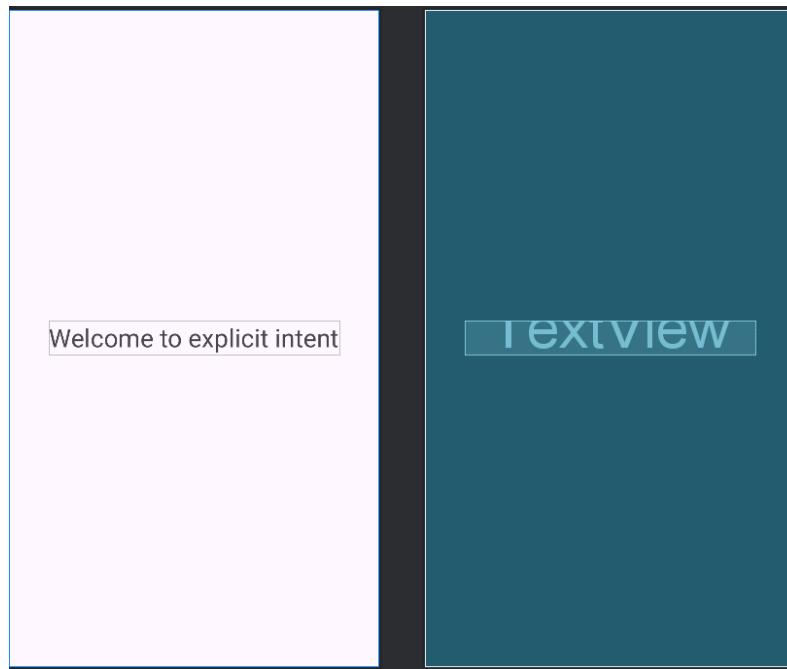
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

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);
    }

    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 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

```
package com.example.mad4;

import android.os.Bundle;

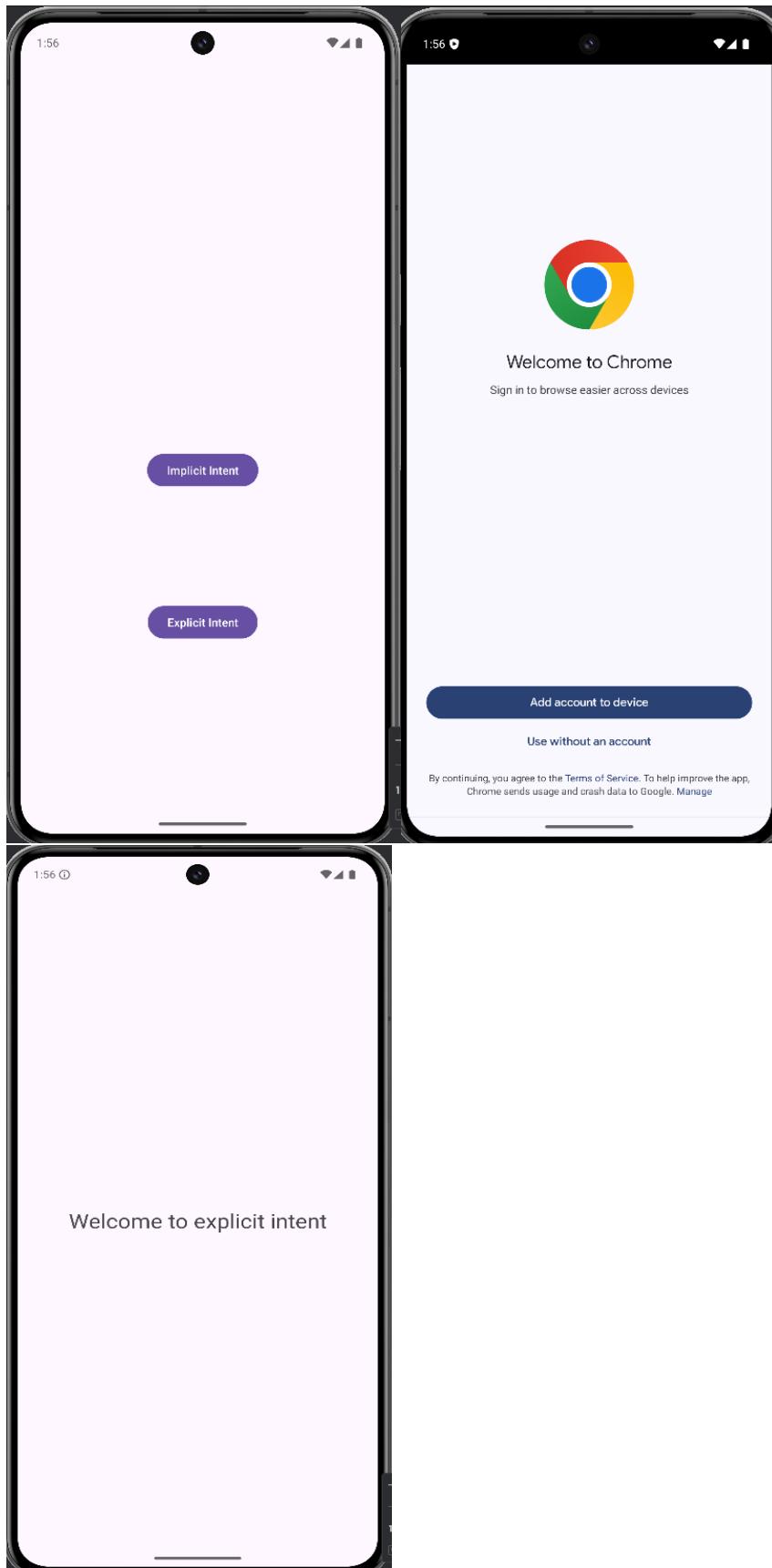
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
```

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

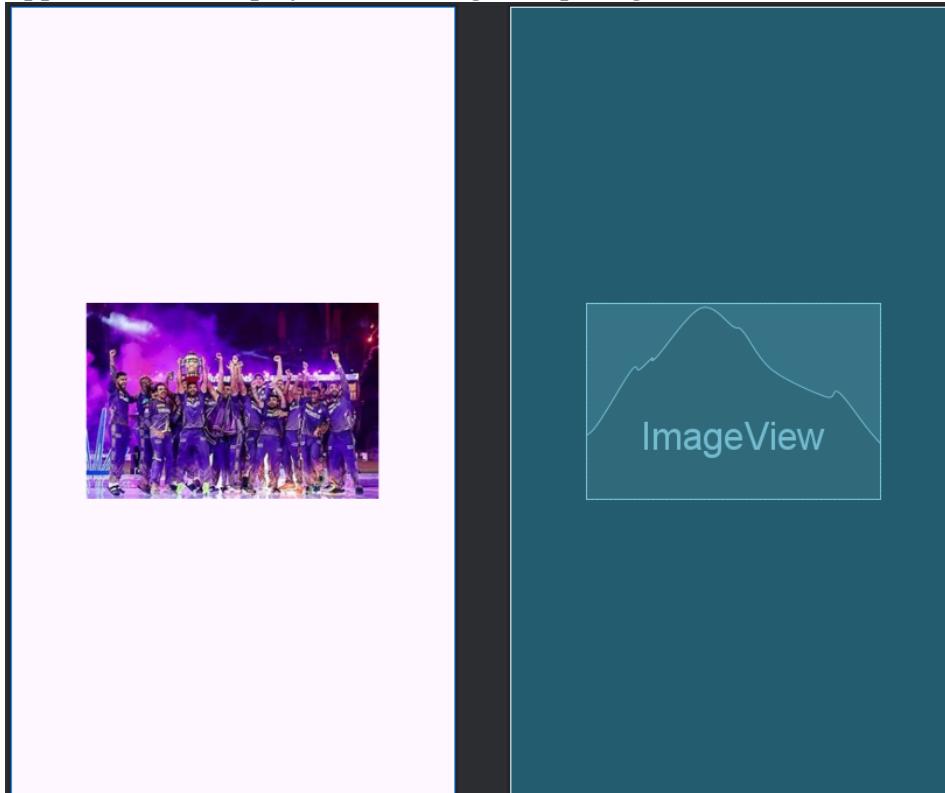
public class NewActivity extends AppCompatActivity {

    @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:



Create an application that displays custom designed Opening Screen.



</>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/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>
```

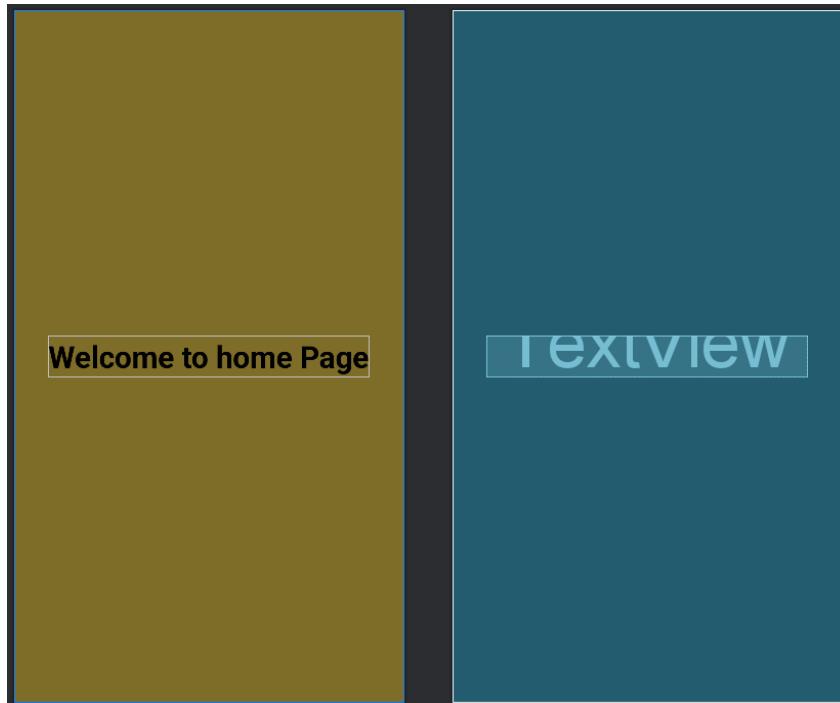
</>MainActivity.java

```
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);  
        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 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"
```

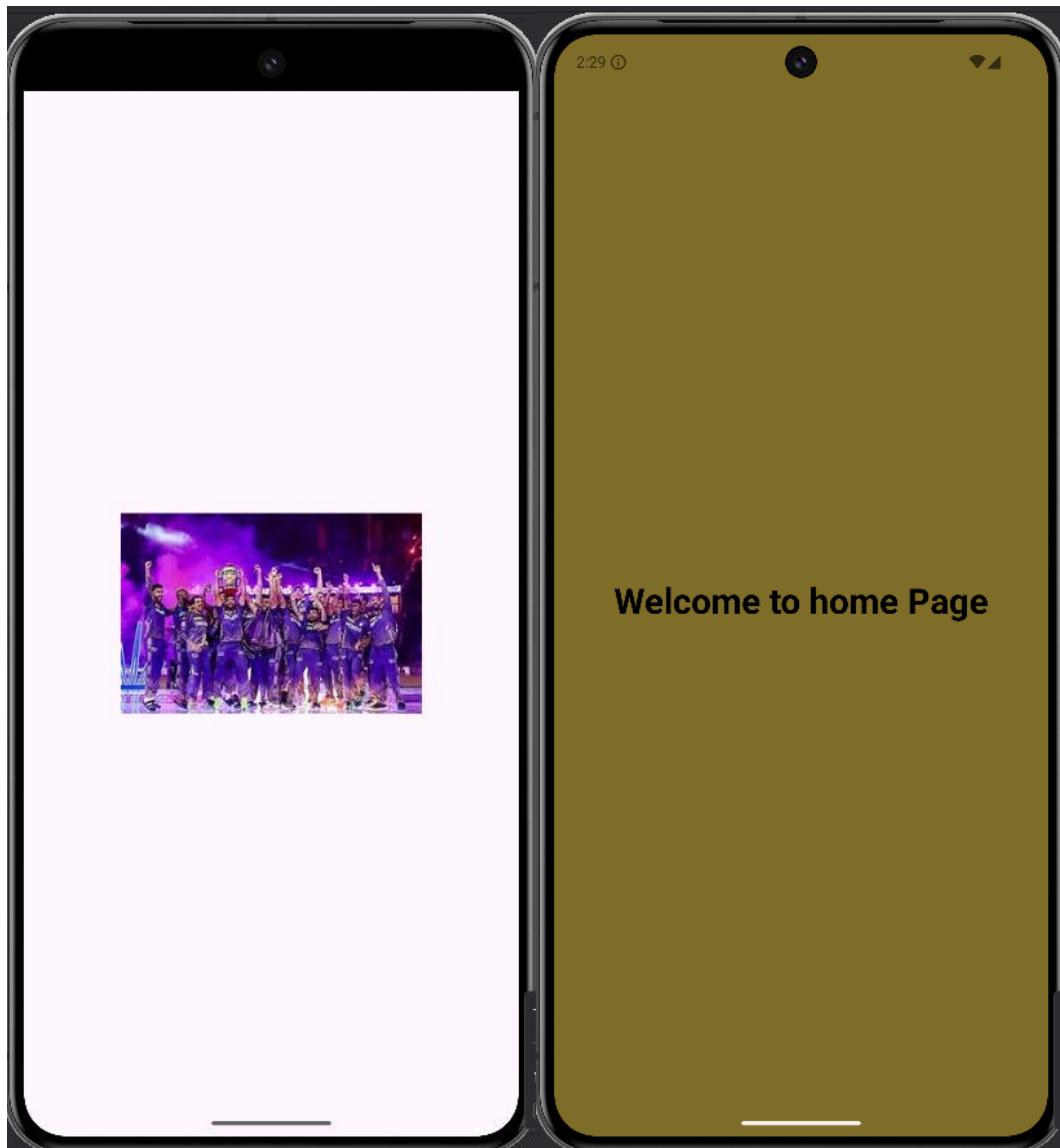
```
        android:background="#7E6C29">
    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to home Page"
        android:textStyle="bold"
        android:textSize="32sp"
        android:textColor="@color/black"/>
    </RelativeLayout>
</>MainScreen.java
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;

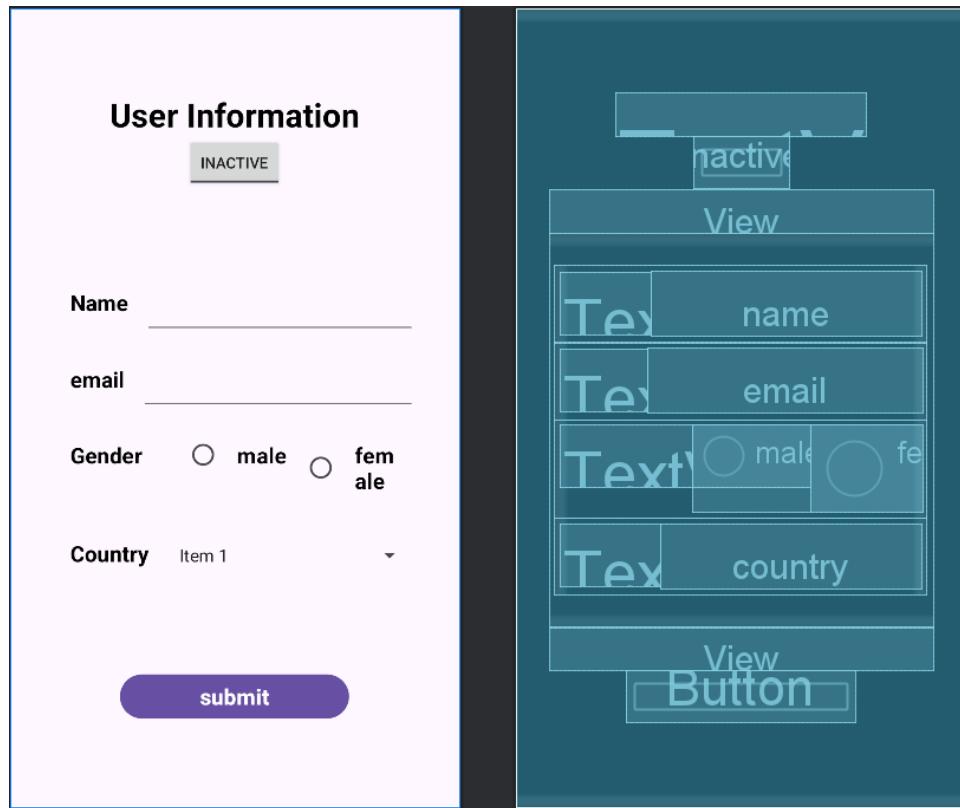
public class Mainscreen extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_mainscreen);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });
    }
}
```

OUTPUT:



MADLAB-06

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"
    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>
</>MainActivity.java
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 {

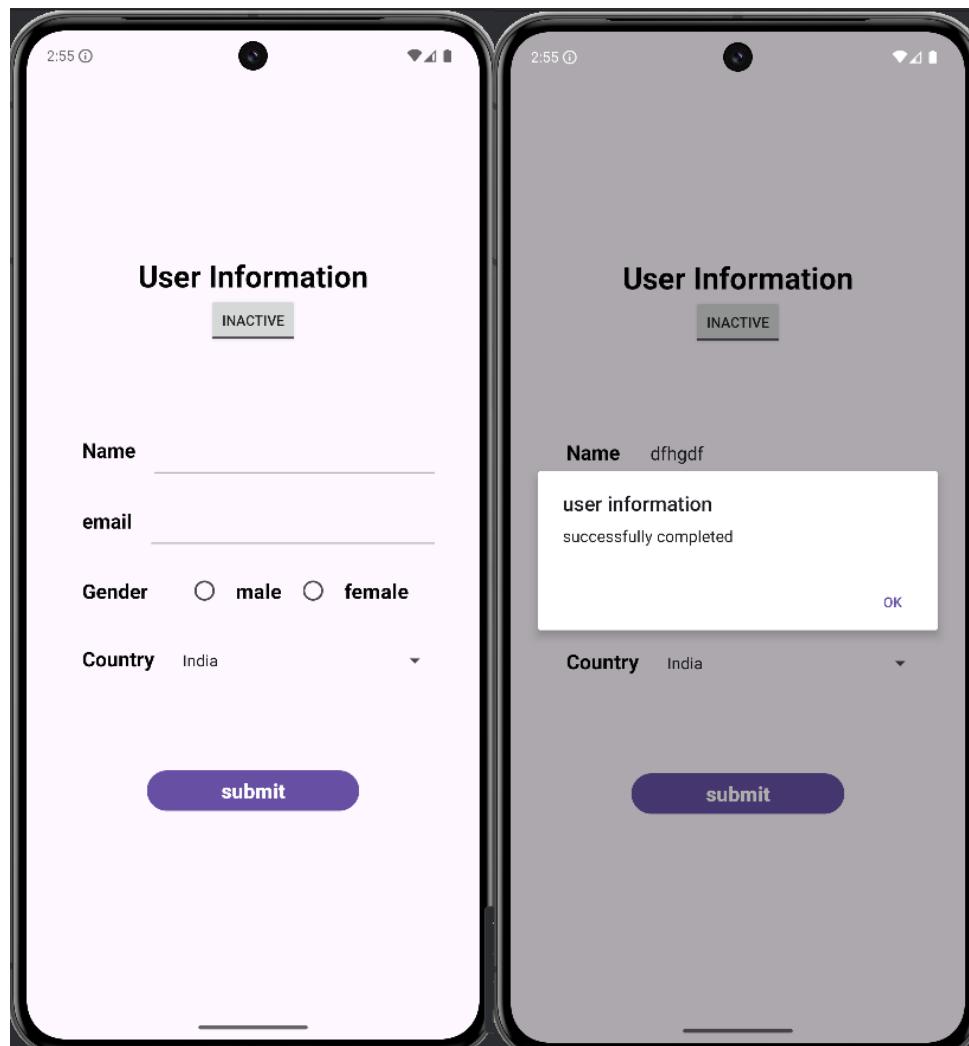
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        Button sub=findViewById(R.id.submit);

        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.

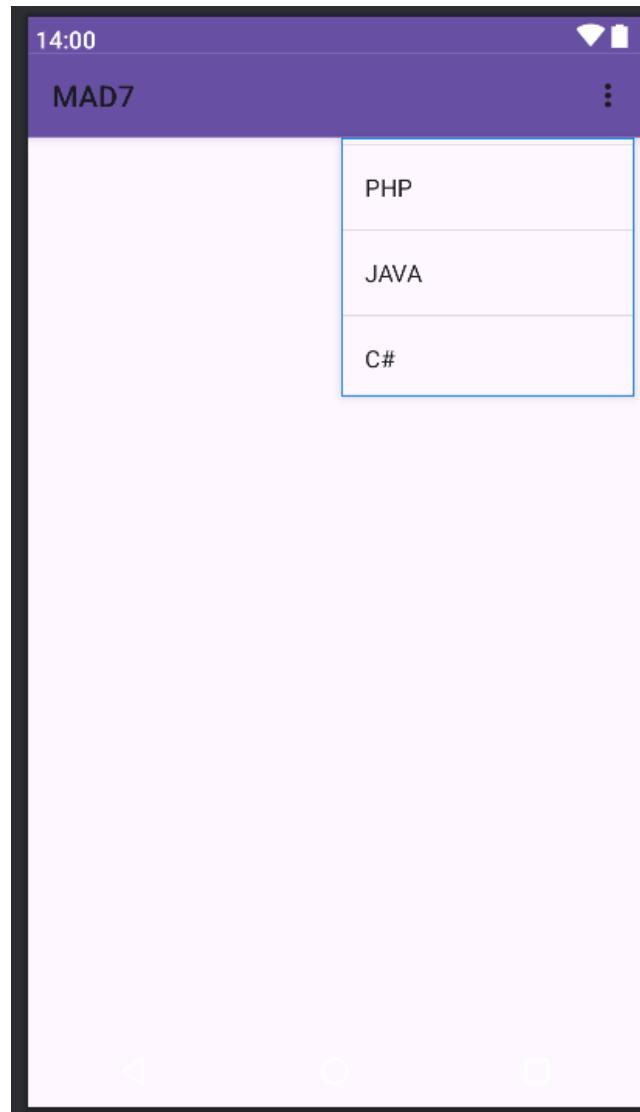
</>activity_main.xml

```
<?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;

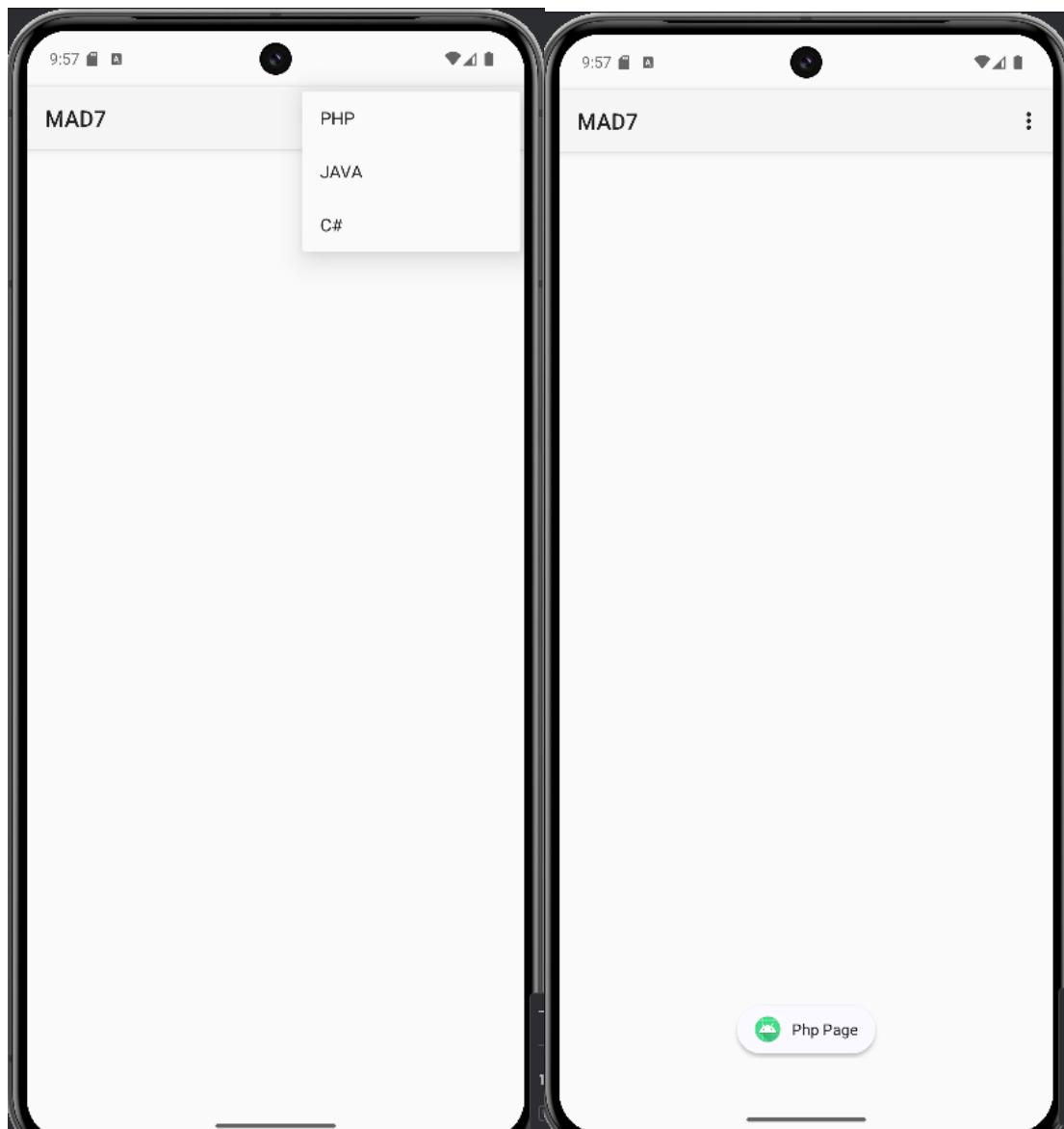
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState); EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
    }
    @Override
    public boolean onCreateOptionsMenu(@NonNull 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 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/csharp"
        android:title="C#"/>
```

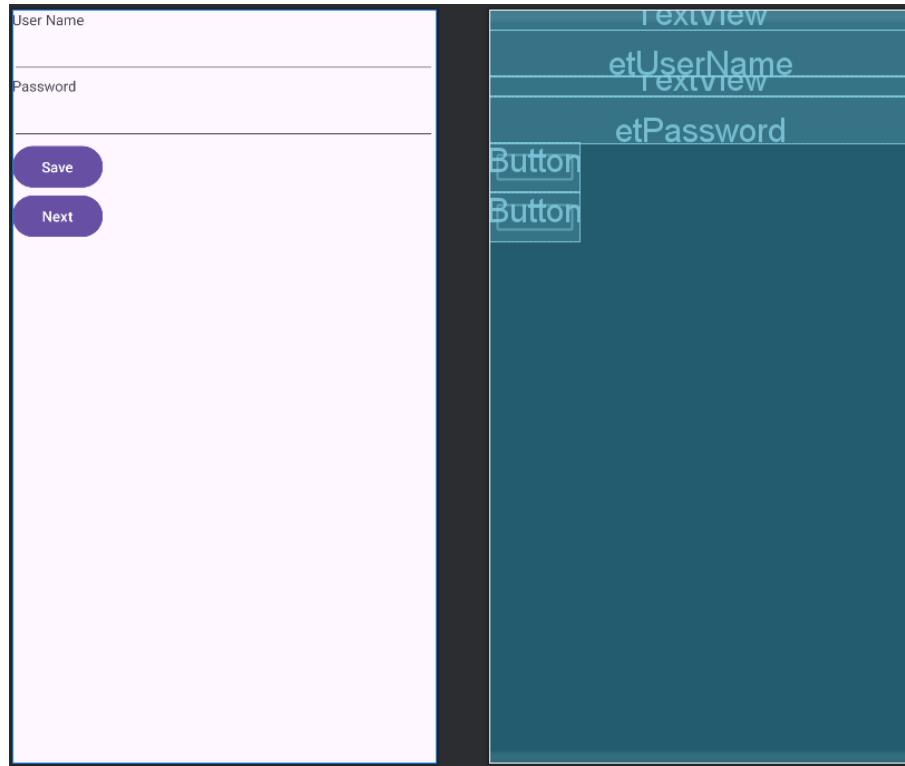
```
</menu>
```

OUTPUT:



MADLAB-08

Read/write the Local data.

**</>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">

    <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:text="Save">
    </Button>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Next">
    </Button>

```

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

bttnnext.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent intent = new Intent(getApplicationContext(),MainActivity2.class);
        startActivity(intent);
    }
});
}
}

```

AndroidManifest.xml

```

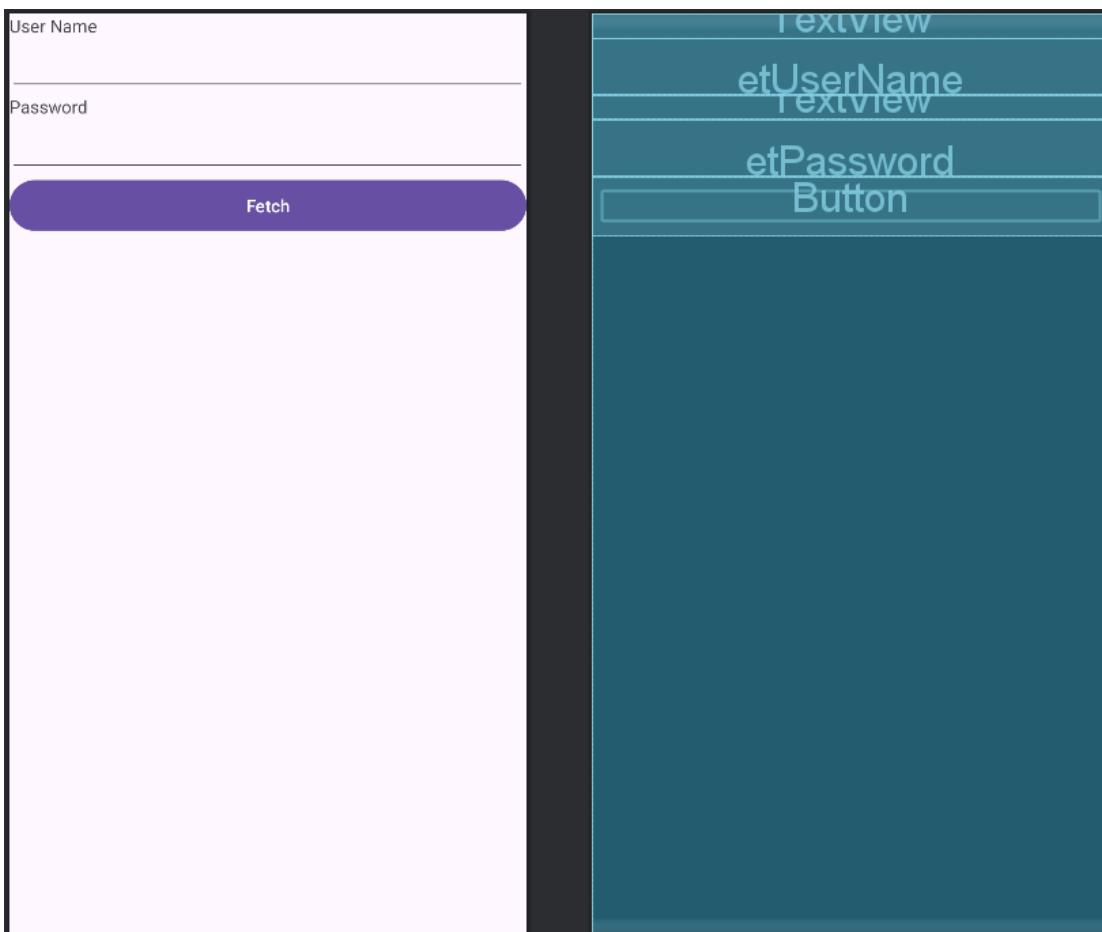
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <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 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">
```

```
    <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
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 {

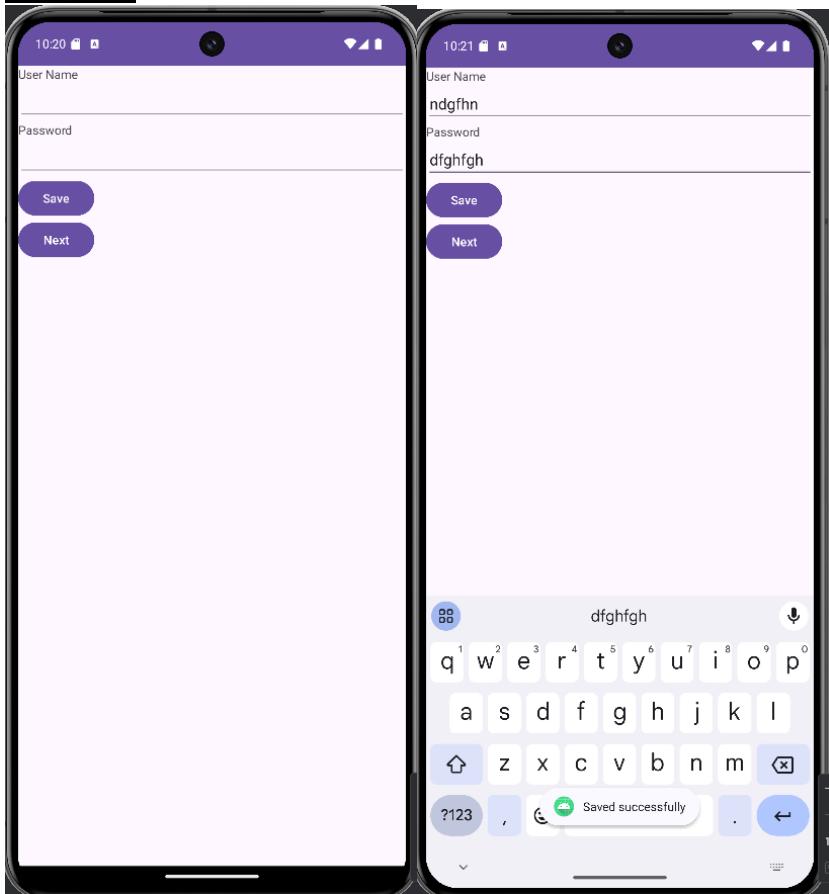
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        Button btnFetch= findViewById(R.id.btnFetch);

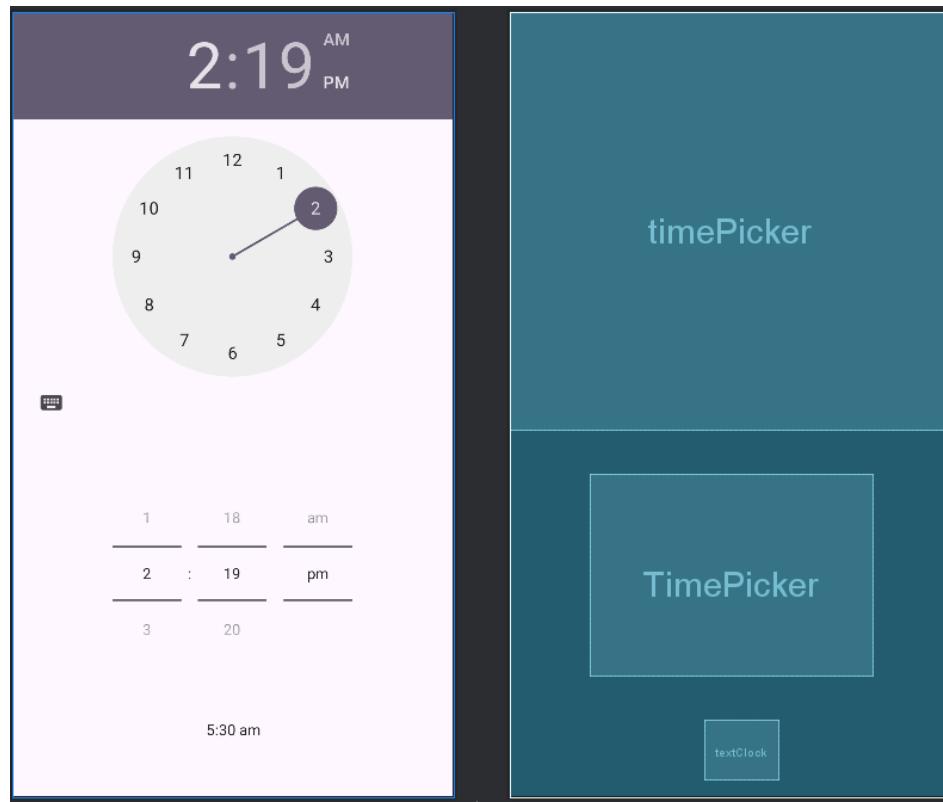
        EditText etUserName = findViewById(R.id.etUserName);
        EditText etPassword = findViewById(R.id.etPassword);

        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**

Demonstrate the working of clock.

</>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">
```

```
<TextClock
    android:id="@+id/textClock"
    android:layout_width="69dp"
    android:layout_height="56dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.529"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/timePicker"
    app:layout_constraintVertical_bias="0.944" />
```

```
<TimePicker
    android:id="@+id/timePicker"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:timePickerMode="clock"
    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_editor_absoluteX="0dp"
    app:layout_editor_absoluteY="1dp"
    tools:layout_editor_absoluteY="0dp" />

<TimePicker
    android:layout_width="263dp"
    android:layout_height="188dp"
    android:timePickerMode="spinner"
    app:layout_constraintBottom_toTopOf="@+id/textClock"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/timePicker" />

</androidx.constraintlayout.widget.ConstraintLayout>
</>MainActivity.java
package com.example.clock;

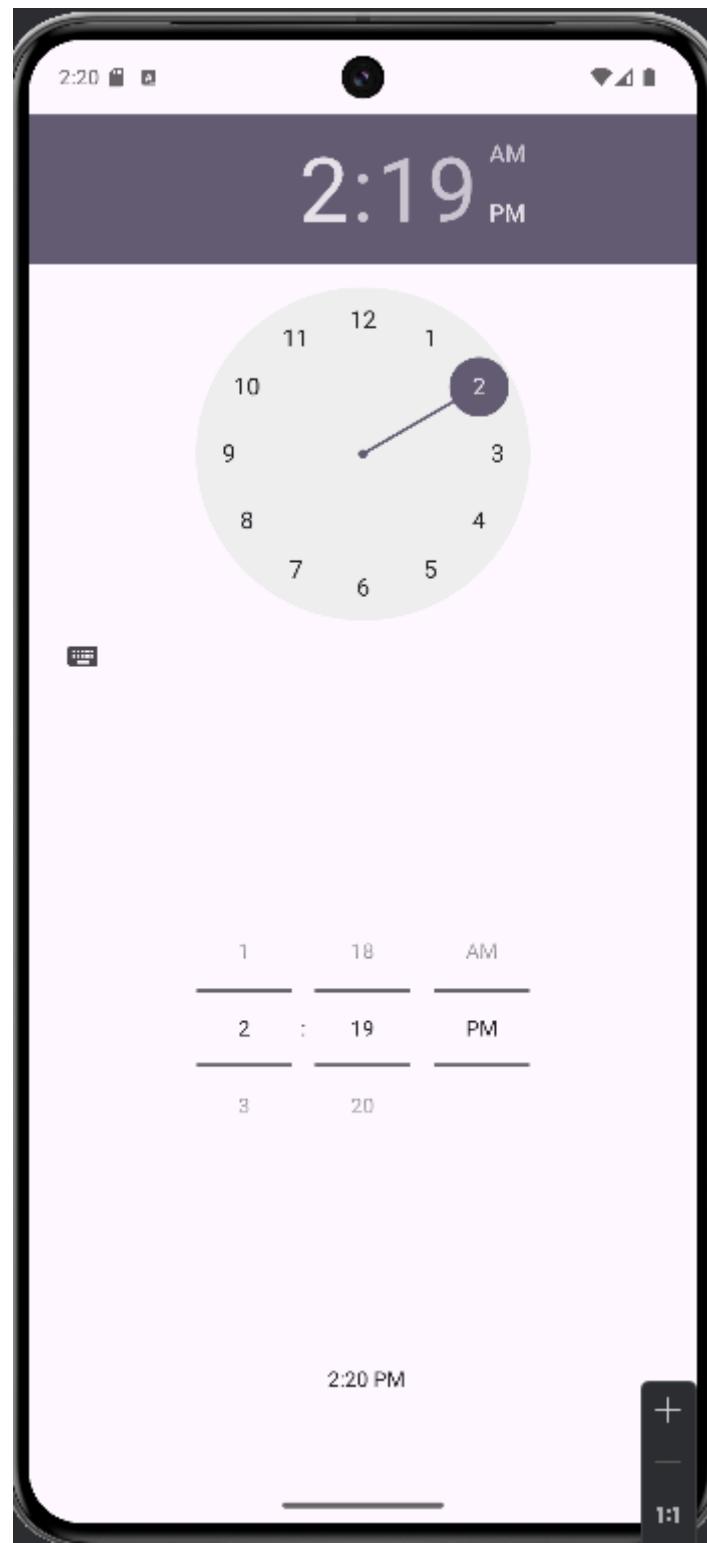
import android.os.Bundle;

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

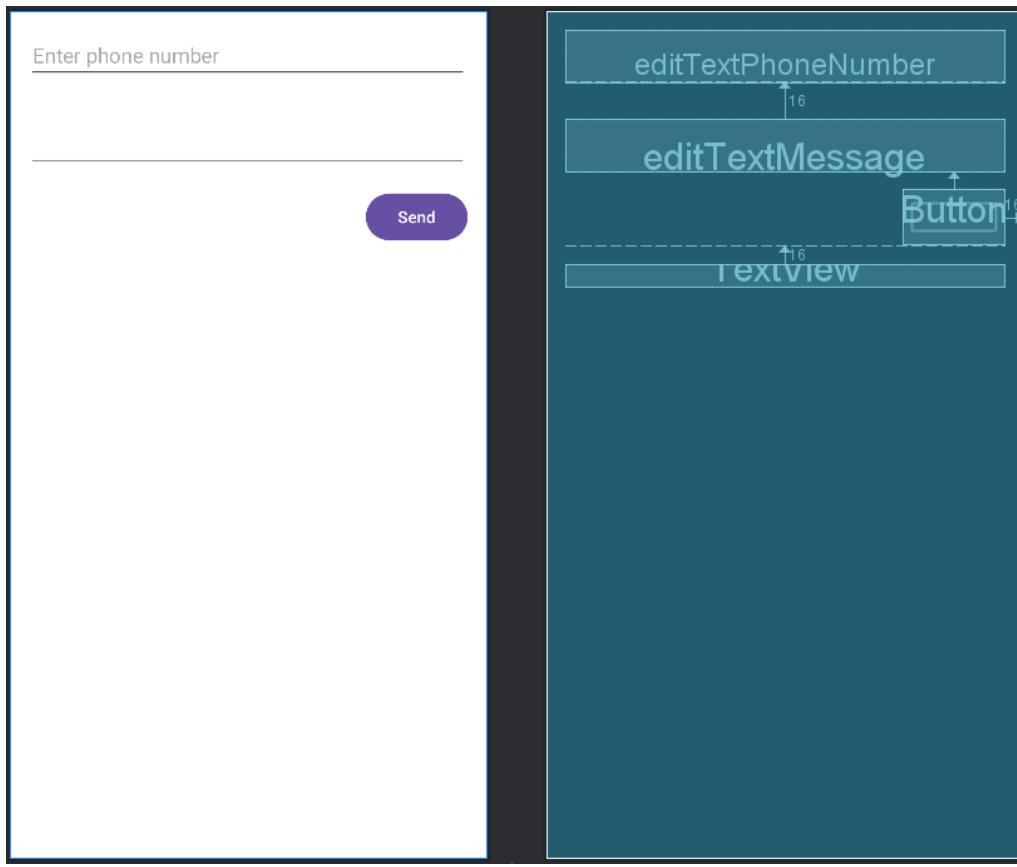
public class MainActivity extends AppCompatActivity {

    @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;
        });
    }
}

OUTPUT:
```



MADLAB-10
Create an application to send SMS and receive SMS.

**</>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:background="@color/white">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/editTextPhoneNumber"
        android:hint="Enter phone number"
        android:layout_margin="16dp"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/editTextMessage"
        android:layout_below="@+id/editTextPhoneNumber"
        android:layout_margin="16dp"/>

    <Button
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:id="@+id/buttonSend"
        android:text="Send"
        android:layout_below="@+id/editTextMessage"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="16dp"
        android:onClick="sendMessage"
        tools:ignore="UsingOnClickInXml" />

    <TextView
        android:id="@+id/textViewReceivedMessages"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/buttonSend"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:layout_marginBottom="16dp"
        android:textColor="@color/black"/>

</RelativeLayout>
</>MainActivity.java
package com.example.mad10;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.telephony.SmsMessage;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import android.Manifest;

import java.text.BreakIterator;

public class MainActivity extends AppCompatActivity {
    private static final int SMS_PERMISSION_CODE = 101;
    private EditText editTextPhoneNumber;
    private EditText editTextMessage;
    private TextView textViewReceivedMessages;
```

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    editTextPhoneNumber = findViewById(R.id.editTextPhoneNumber);
    editTextMessage = findViewById(R.id.editTextMessage);
    textViewReceivedMessages = findViewById(R.id.textViewReceivedMessages);

    if (!checkSMSPermission()) {
        requestSMSPermission();
    }

    IntentFilter intentFilter = new IntentFilter();
    intentFilter.addAction("android.provider.Telephony.SMS_RECEIVED");
    registerReceiver(smsReceiver, intentFilter);
}

@Override
protected void onDestroy() {
    super.onDestroy();
    unregisterReceiver(smsReceiver);
}

public void sendMessage(View view) {
    String phoneNumber = editTextPhoneNumber.getText().toString().trim();
    String message= editTextMessage.getText().toString();
    if (phoneNumber.isEmpty()) {
        Toast.makeText(this, "please enter a valid phone number", Toast.LENGTH_SHORT).show();
        return;
    }
    try {
        SmsManager smsManager = SmsManager.getDefault();
        smsManager.sendTextMessage(phoneNumber, null, message , null, null);
        Toast.makeText(this, "message sent", Toast.LENGTH_SHORT).show();
    } catch (IllegalArgumentException e) {
        Toast.makeText(this, "Invalid phone number format", Toast.LENGTH_SHORT).show();
    } catch (Exception e){
        Toast.makeText(this,"Failed to send message",Toast.LENGTH_SHORT).show();
        e.printStackTrace();
    }
}
private boolean checkSMSPermission(){
    return ContextCompat.checkSelfPermission(this,Manifest.permission.SEND_SMS)==
PackageManager.PERMISSION_GRANTED;
}
private void requestSMSPermission() {
    ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.SEND_SMS},
SMS_PERMISSION_CODE);
}
```

```
private final BroadcastReceiver smsReceiver = new BroadcastReceiver() {
    @Override
    public void onReceive(Context context, Intent intent) {
        Bundle bundle=intent.getExtras();
        if (bundle!= null){
            Object[] pdus=(Object[]) bundle.get("pdus");
            if (pdus!= null){
                for (Object pdu :pdus){
                    SmsMessage smsMessage= SmsMessage.createFromPdu((byte[]) pdu);
                    String senderPhoneNumber= smsMessage.getDisplayOriginatingAddress();
                    String messageBody = smsMessage.getMessageBody();
                    textViewReceivedMessages.append("from:"+senderPhoneNumber+"\n");
                    textViewReceivedMessages.append("Message:"+messageBody+"\n\n");
                }
            }
        };
    }
}

</>AndroidManifest.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">

    <uses-permission android:name="android.hardware.telephony"
        android:required="false"/>

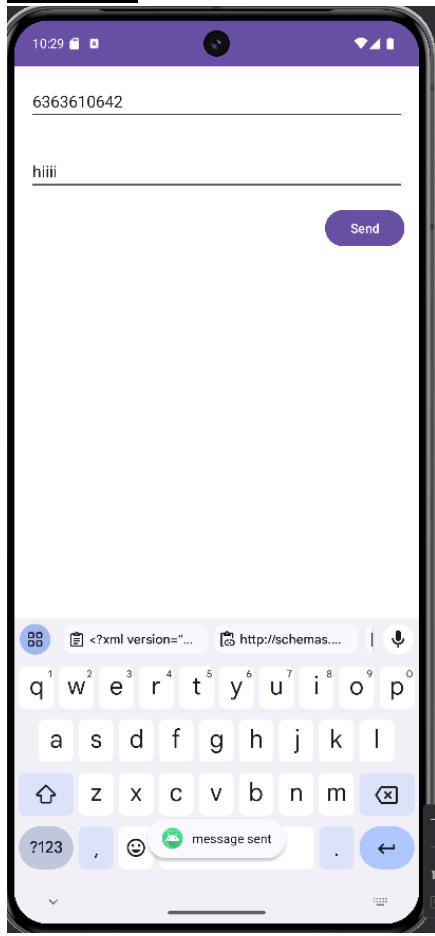
    <uses-permission android:name="android.permission.SEND_SMS"/>
    <uses-permission android:name="android.permission.RECEIVE_SMS"/>
    <uses-permission android:name="android.permission.READ_SMS"/>

    <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.Mad10"
        tools:targetApi="31">
        <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>

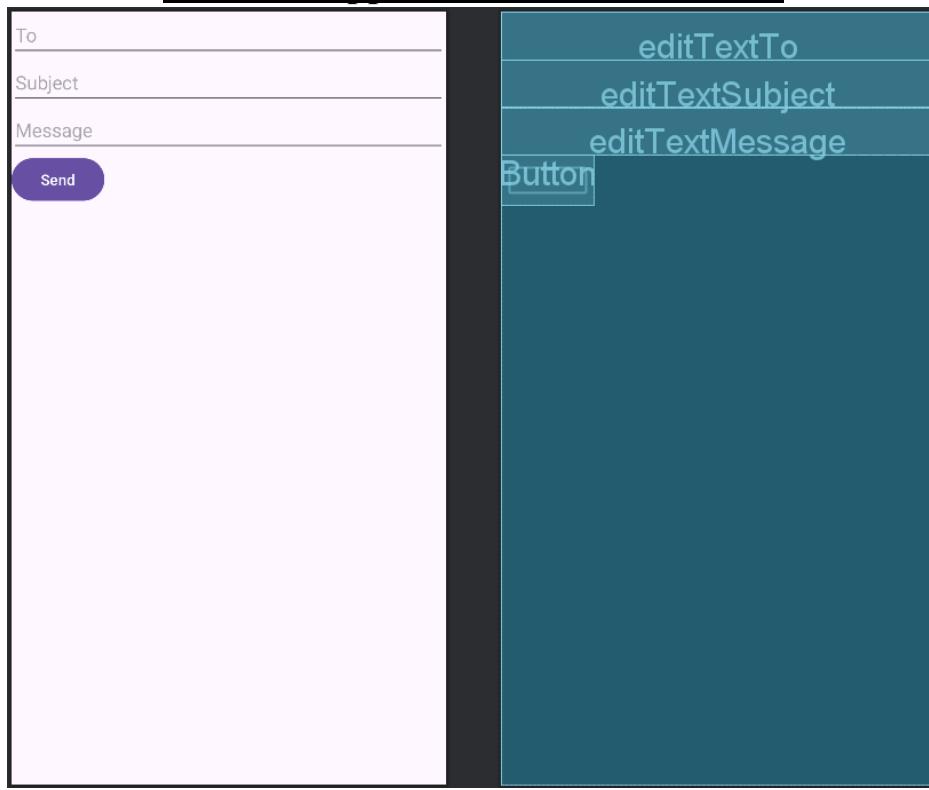
</manifest>

OUTPUT:



MADLAB-11

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"
```

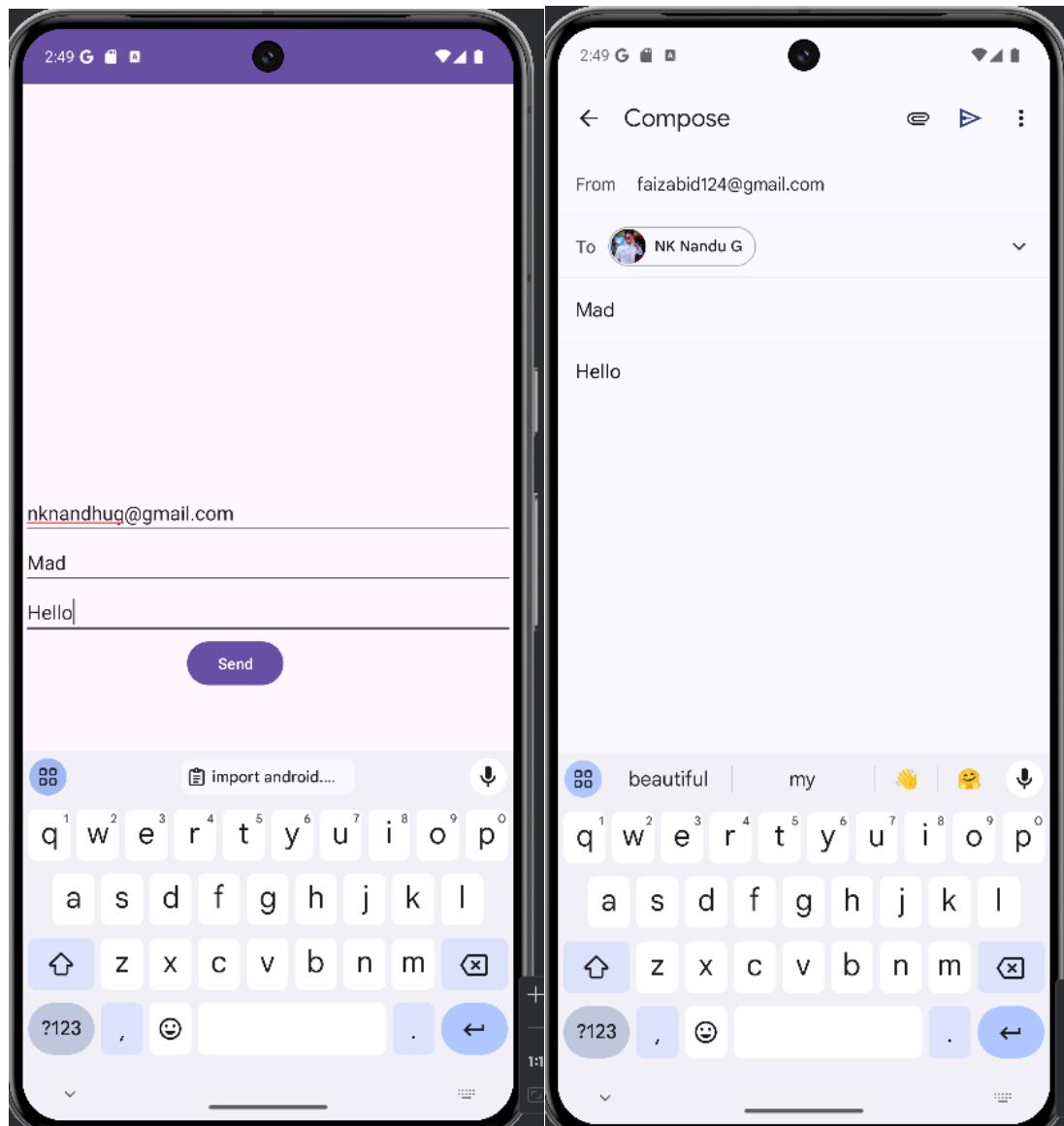
```
        android:text="Send"/>>
    </RelativeLayout>
</>MainActivity.java
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    EditText editTextTo, editTextSubject, editTextMessage;
    Button buttonSend;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        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("QueryPermissionsNeeded")
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(getApplicationContext())!=null)
    {
        startActivityForResult(Intent.createChooser(intent,"Choose an email client"));
    }
}
</>AndroidManifest.xml
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);
        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();
            }
        });
    }
}

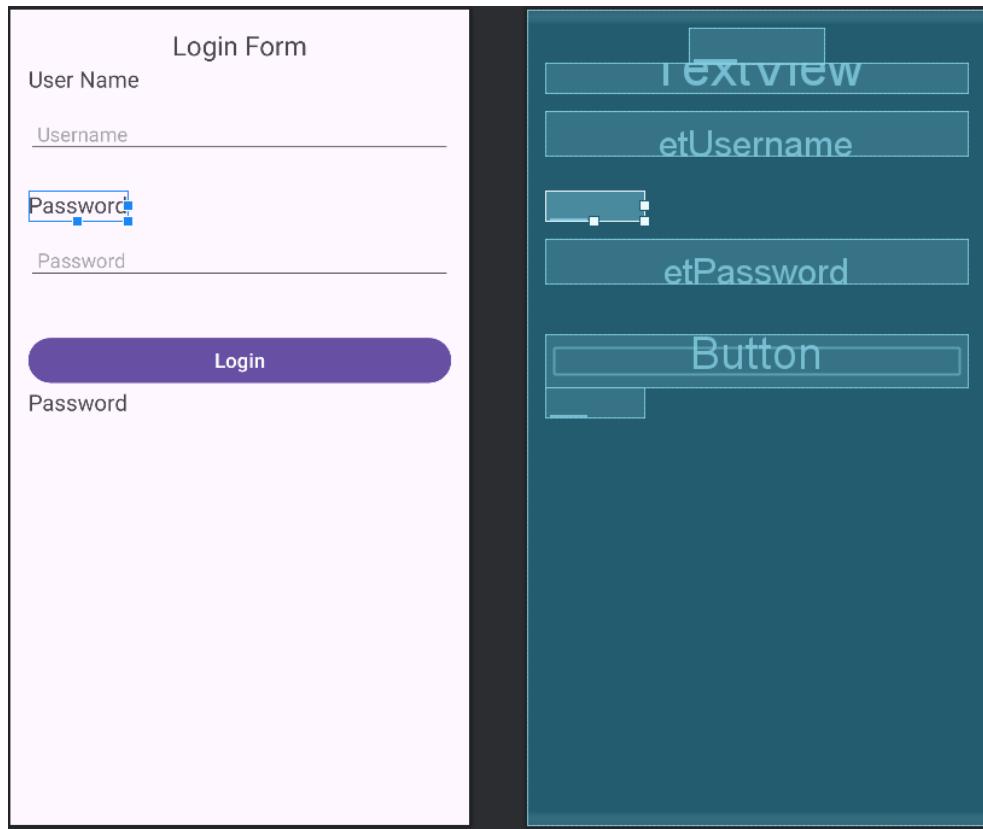
@SuppressWarnings("QueryPermissionsNeeded")
private void sendEmail(){
    String to = editTextTo.getText().toString().trim();
    String subject = editTextSubject.getText().toString().trim();
    String message = editTextMessage.getText().toString().trim();
    Intent intent = new Intent(Intent.ACTION_SEND);
    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(getApplicationContext())!=null)
    {
        startActivityForResult(Intent.createChooser(intent,"Choose an email client"));
    }
}
}
```

OUTPUT:



MADLAB-12

Create a sample application with login module(check user name and password)on successful login change Textview "Login Successful".On login fail using Toast "login fail".



</>activity_main.xml

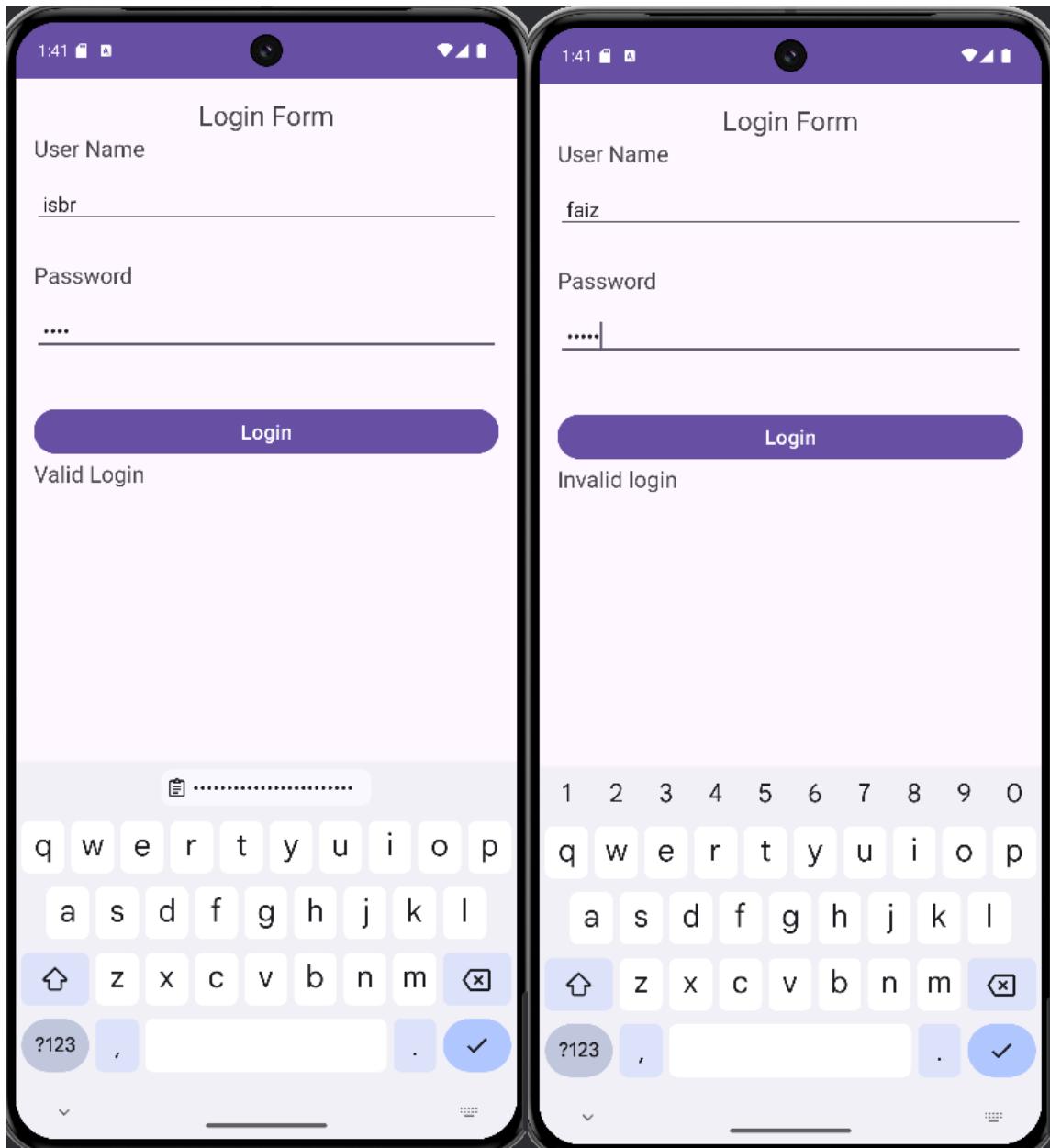
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:padding="16dp">
    <TextView
        android:id="@+id/TvTilte"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:text="Login Form"
        android:layout_gravity="center"/>
    <TextView
        android:id="@+id/tvUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:text="User Name"/>
    <EditText
        android:id="@+id/etUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
    android:hint="Username"
    android:inputType="text"
    android:padding="8dp"
    android:layout_marginTop="16dp"
    android:layout_marginBottom="30dp"/>
<TextView
    android:id="@+id/tvPassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"
    android:text="Password"/>
<EditText
    android:id="@+id/etPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:inputType="textPassword"
    android:padding="8dp"
    android:layout_marginTop="16dp"
    android:layout_marginBottom="30dp"/>
<Button
    android:id="@+id/btnLogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Login"
    android:textSize="18sp"
    android:layout_marginTop="16dp"/>
<TextView
    android:id="@+id/tvMessage"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"
    android:text="Password"/>
</LinearLayout>
</>MainActivity.java
package com.example.mad13;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
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 {
    EditText etUsername, etPassword; Button btnLogin;
    TextView tvMessage;
```

```
@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    btnLogin = (Button) findViewById(R.id.btnLogin);
    etUsername = (EditText) findViewById(R.id.etUsername);
    etPassword = (EditText) findViewById(R.id.etPassword);
    tvMessage = (TextView) findViewById(R.id.tvMessage);
    btnLogin.setOnClickListener(new View.OnClickListener()
    { @Override
        public void onClick(View view)
        {
            if(etUsername.getText().toString().isEmpty())
            {
                etUsername.setError("Enter User name");
            } else if (etPassword.getText().toString().isEmpty()) {
                etPassword.setError("Enter Password");
            }
            else if(etUsername.getText().toString().equals("isbr") &&
                    etPassword.getText().toString().equals("isbr"))
            {
                tvMessage.setText("Valid Login");
            }
            else
            {
                tvMessage.setText("Invalid login");
            }
        }
    });
}
```

OUTPUT:



MADLAB-13

Demonstration to deploy android applications.

```

</>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>
</>MainActivity.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

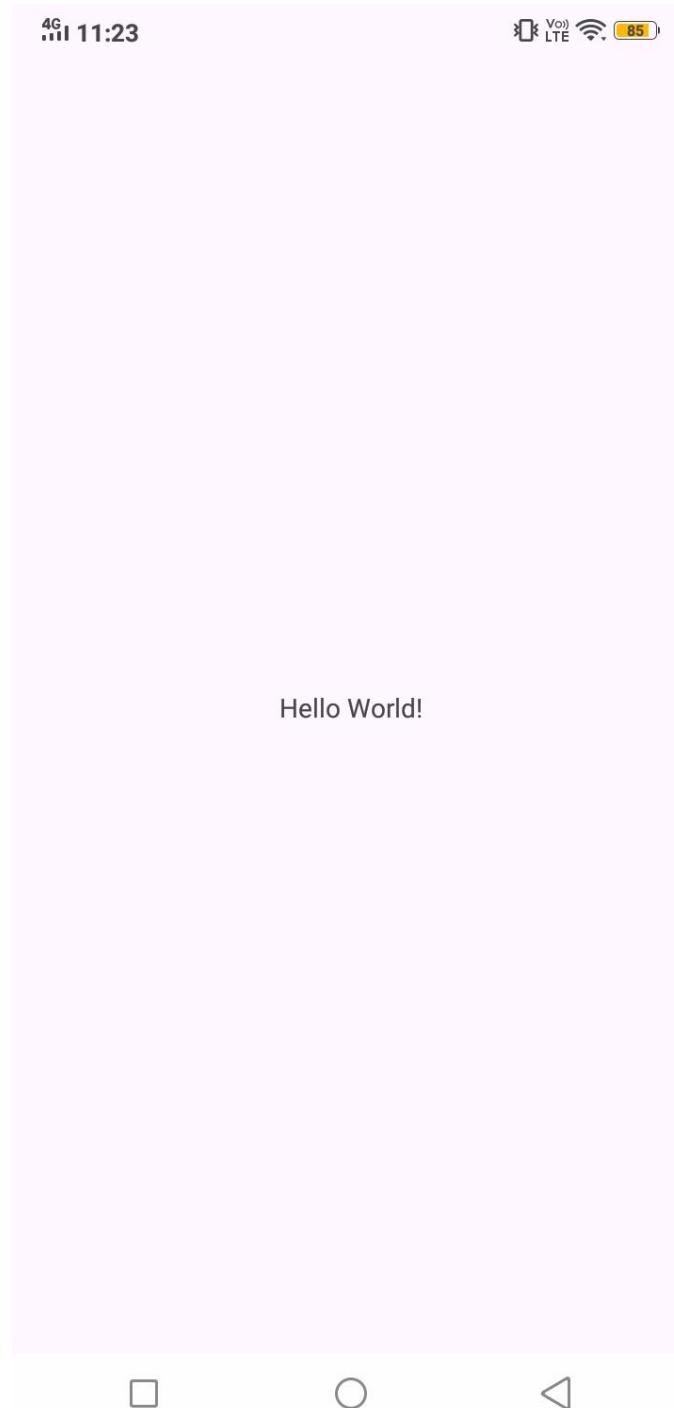
(create a folder in windows c - user-user-documnets
in documents create a folder myskeystore - create a filename.jsk)

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:



MADLAB-14

Create a project to demonstrate table layout.

</activity main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout 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:paddingLeft="10dp"
    android:paddingRight="10dp"
    tools:context=".MainActivity">

    <TableRow android:background="#3A128C" android:padding="5dp">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="user id"
            android:textColor="@color/white"
            android:textAlignment="center"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="user name "
            android:textColor="@color/white"
            android:textAlignment="center"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="location"
            android:textColor="@color/white"
            android:textAlignment="center"/>
    </TableRow>

    <TableRow android:background="#00ACFF" android:padding="5dp">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="I"
            android:textColor="@color/white"
            android:textAlignment="center"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="A"
            android:textColor="@color/white"
            android:textAlignment="center"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="B"
            android:textColor="@color/white"
            android:textAlignment="center"/>
    </TableRow>
```

```
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Kundapura"
    android:textColor="@color/white"
    android:textAlignment="center"/>
</TableRow>

<TableRow android:background="#01ACFF" android:padding="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="2"
        android:textColor="@color/white"
        android:textAlignment="center"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="B"
        android:textColor="@color/white"
        android:textAlignment="center"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Mysore"
        android:textColor="@color/white"
        android:textAlignment="center"/>
</TableRow>

<TableRow android:background="#00AAFD" android:padding="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="3"
        android:textColor="@color/white"
        android:textAlignment="center"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="C"
        android:textColor="@color/white"
        android:textAlignment="center"/>

    <TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Bangalore"
    android:textColor="@color/white"
    android:textAlignment="center"/>
</TableRow>
```

```
</TableLayout>
```

MainActivity.java

```
package com.example.mad14;

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;
        });
    }
}
```

OUTPUT:

