

**20CYS404**

**Android Application Development**

**Lab Exam Documentation**

**Submitted by**

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***Question – 5***

1. Create a Registration page

2. Based on dummy gmail as user name and password – Login

3. Logout

4. Then login again and the session should be maintained the Welcome back “gmail id” should be display

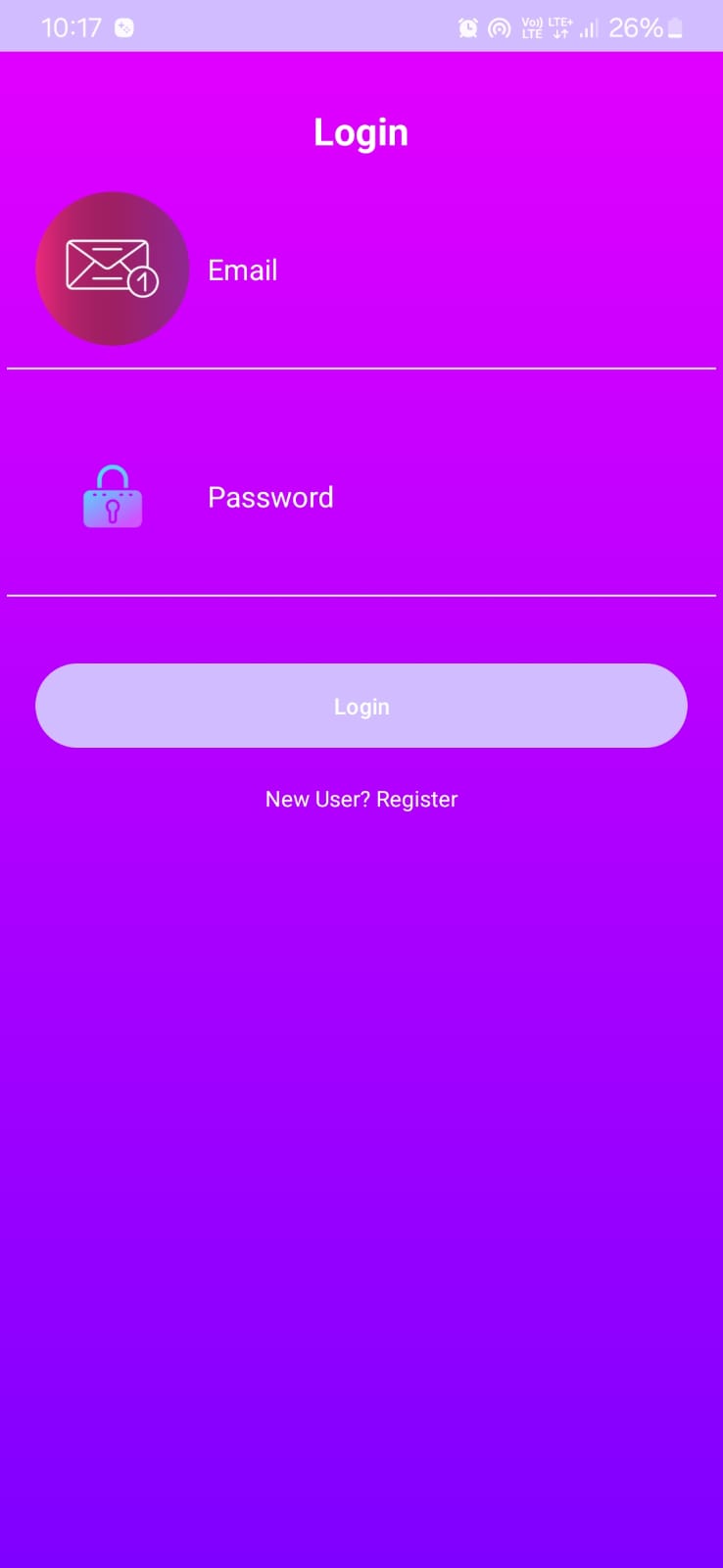
***Solution***

This app consists of three activities

* MainActivity (Login)
* RegistrationActivity
* WelcomeActivity

**MainActivity**

***activity\_main.xml***

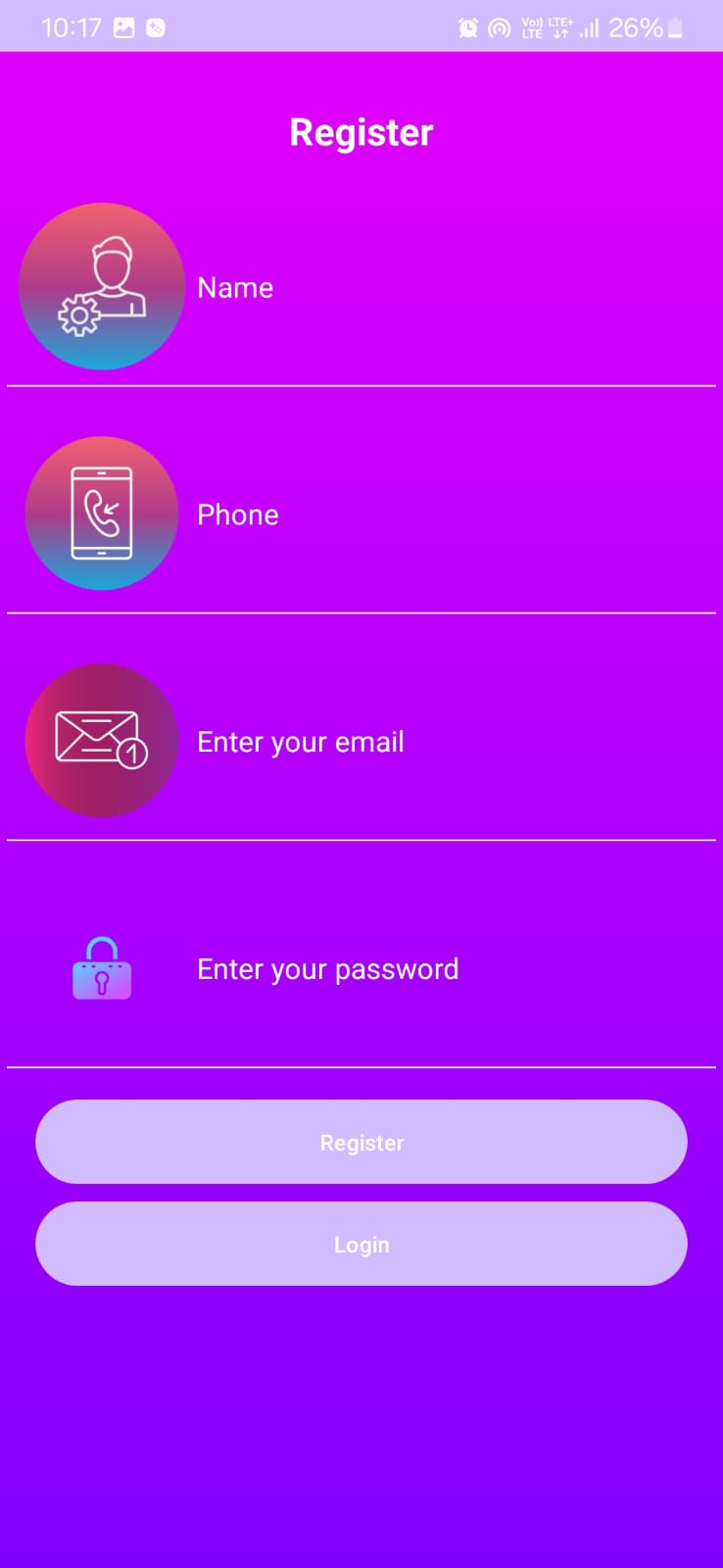
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 xmlns:tools="http://schemas.android.com/tools"  
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 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:id="@+id/main"  
 android:background="@drawable/background\_gradient"  
 tools:context=".MainActivity">  
  
 <!-- Login Title -->  
 <TextView  
 android:id="@+id/login\_title"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Login"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 android:layout\_marginTop="30dp"  
 android:layout\_centerHorizontal="true"  
 android:textColor="@android:color/white" />  
  
 <!-- Email Input -->  
 <EditText  
 android:id="@+id/login\_email"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Email"  
 android:drawableStart="@mipmap/mail\_foreground"  
 android:paddingLeft="10dp"  
 android:layout\_below="@+id/login\_title"  
 android:backgroundTint="@android:color/white"  
 android:inputType="text"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"/>  
  
 <!-- Password Input -->  
 <EditText  
 android:id="@+id/login\_password"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Password"  
 android:drawableStart="@mipmap/padlock\_foreground"  
 android:paddingLeft="10dp"  
 android:inputType="textPassword"  
 android:layout\_below="@id/login\_email"  
 android:backgroundTint="@android:color/white"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"/>  
  
 <!-- Login Button -->  
 <Button  
 android:id="@+id/login\_button"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Login"  
 android:textAllCaps="false"  
 android:layout\_below="@id/login\_password"  
 android:layout\_marginTop="30dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginRight="20dp"  
 android:textColor="@android:color/white"  
 android:background="@drawable/button\_style"/>  
  
 <!-- Register Link -->  
 <TextView  
 android:id="@+id/register\_link"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/register\_link"  
 android:layout\_below="@id/login\_button"  
 android:layout\_marginTop="20dp"  
 android:layout\_centerHorizontal="true"  
 android:textColor="@android:color/white"/>  
</RelativeLayout>

***MainActivity.java***

package com.example.login;  
  
import android.content.Context;  
import android.content.Intent;  
import android.content.SharedPreferences;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText edtEmail, edtPassword;  
 Button btnLogin;  
 TextView txtRegister;  
  
 SharedPreferences sharedPreferences;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 edtEmail = findViewById(R.id.*login\_email*);  
 edtPassword = findViewById(R.id.*login\_password*);  
 btnLogin = findViewById(R.id.*login\_button*);  
 txtRegister = findViewById(R.id.*register\_link*);  
  
 // Initialize SharedPreferences  
 sharedPreferences = getSharedPreferences("UserPrefs", Context.*MODE\_PRIVATE*);  
  
 // Check if user is already logged in  
 boolean isLoggedIn = sharedPreferences.getBoolean("IsLoggedIn", false);  
 if (isLoggedIn) {  
 String email = sharedPreferences.getString("Email", null);  
 Intent intent = new Intent(MainActivity.this, WelcomeActivity.class);  
 intent.putExtra("email", email);  
 startActivity(intent);  
 finish(); // Close login activity  
 }  
  
 btnLogin.setOnClickListener(v -> {  
 String email = edtEmail.getText().toString();  
 String password = edtPassword.getText().toString();  
  
 // Get stored email and password from SharedPreferences  
 String registeredEmail = "n.dinesh4320@gmail.com";  
 String registeredPassword = "Dinesh123";  
  
 // Validate inputs  
 if (TextUtils.*isEmpty*(email) || TextUtils.*isEmpty*(password)) {  
 Toast.*makeText*(MainActivity.this, "All fields are required", Toast.*LENGTH\_SHORT*).show();  
 } else {  
 // Check if the credentials match  
 if (email.equals(registeredEmail) && password.equals(registeredPassword)) {  
 Toast.*makeText*(MainActivity.this, "Login Successful", Toast.*LENGTH\_SHORT*).show();  
  
 //Store login state  
 SharedPreferences.Editor editor = MainActivity.this.sharedPreferences.edit();  
 editor.putBoolean("IsLoggedIn", true);  
 editor.apply();  
  
 // Redirect to Welcome Page with email  
 Intent intent = new Intent(MainActivity.this, WelcomeActivity.class);  
 intent.putExtra("email", email);  
 startActivity(intent);  
 finish();  
 } else {  
 Toast.*makeText*(MainActivity.this, "Invalid email or password", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
  
 // Redirect to Registration page  
 txtRegister.setOnClickListener(v -> {  
 Intent registrationIntent = new Intent(MainActivity.this, RegistrationActivity.class);  
 startActivity(registrationIntent);  
 finish();  
 });  
 }  
}

**RegistrationActivity**

***activity\_registration.xml***

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@drawable/background\_gradient"  
 tools:context=".RegistrationActivity">  
  
 <TextView  
 android:id="@+id/registration\_title"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/register"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 android:layout\_marginTop="30dp"  
 android:layout\_centerHorizontal="true"  
 android:textColor="@android:color/white" />  
  
 <!-- Name Input -->  
 <EditText  
 android:id="@+id/name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="@string/Name"  
 android:drawableStart="@mipmap/user\_foreground"  
 android:inputType="text"  
 android:layout\_below="@+id/registration\_title"  
 android:layout\_marginTop="10dp"  
 android:backgroundTint="@android:color/white"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"/>  
  
 <!-- Phone Input -->  
 <EditText  
 android:id="@+id/phone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="@string/Phone"  
 android:drawableStart="@mipmap/phone\_foreground"  
 android:layout\_below="@id/name"  
 android:backgroundTint="@android:color/white"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"/>  
  
 <!-- Email Input -->  
 <EditText  
 android:id="@+id/email"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="@string/email"  
 android:inputType="textEmailAddress"  
 android:drawableStart="@mipmap/mail\_foreground"  
 android:layout\_below="@id/phone"  
 android:backgroundTint="@android:color/white"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"  
 />  
  
 <!-- Password Input -->  
 <EditText  
 android:id="@+id/password"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="@string/password"  
 android:drawableStart="@mipmap/padlock\_foreground"  
 android:inputType="textPassword"  
 android:layout\_below="@id/email"  
 android:backgroundTint="@android:color/white"  
 android:textColor="@android:color/white"  
 android:textColorHint="@android:color/white"/>  
  
 <!-- Register Button -->  
 <Button  
 android:id="@+id/register\_button"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="@string/register"  
 android:textAllCaps="false"  
 android:layout\_below="@id/password"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginRight="20dp"  
 android:textColor="@android:color/white"  
 android:background="@drawable/button\_style"/>  
  
 <!-- Login Button -->  
 <Button  
 android:id="@+id/login"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="@string/login"  
 android:textAllCaps="false"  
 android:layout\_below="@id/register\_button"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginRight="20dp"  
 android:textColor="@android:color/white"  
 android:background="@drawable/button\_style"/>  
  
</RelativeLayout>

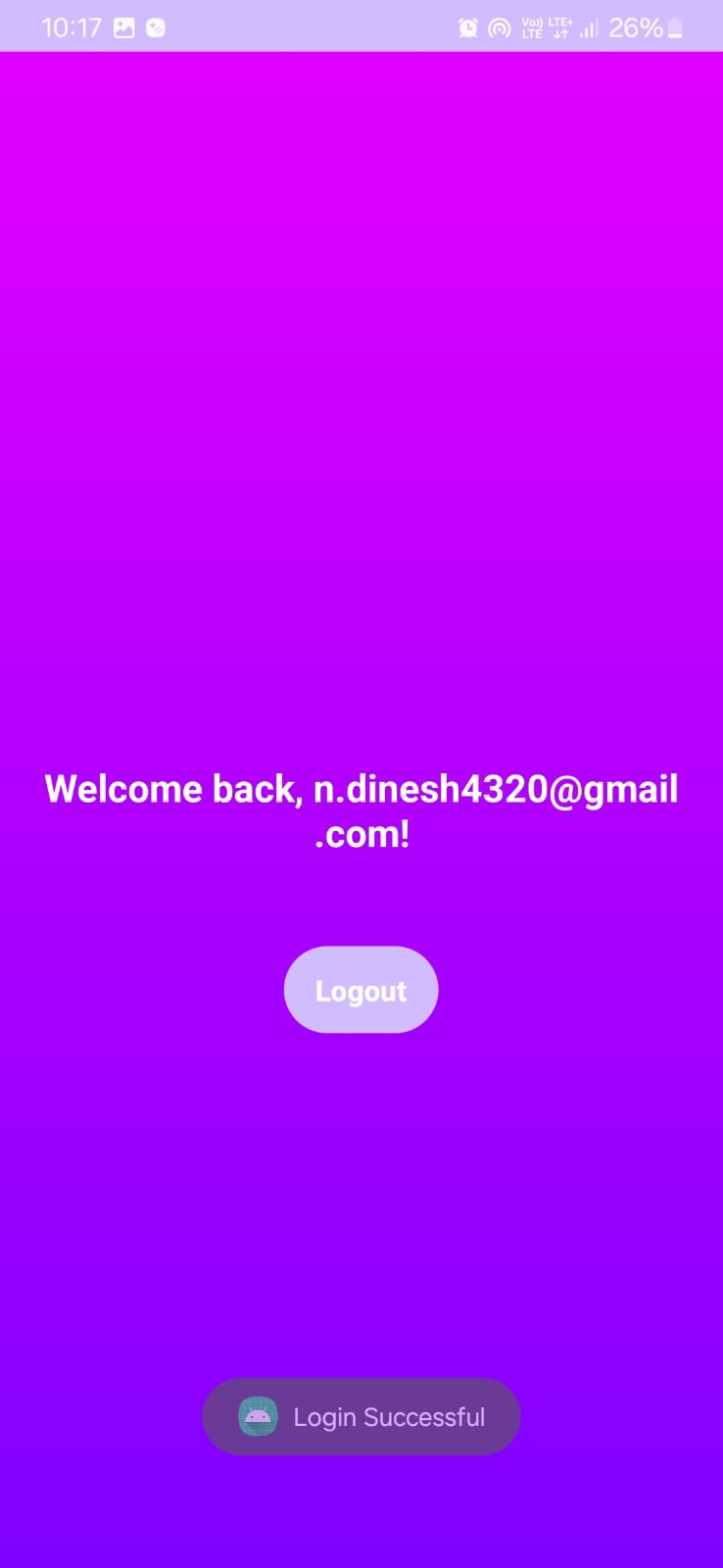
***RegistrationActivity.java***

package com.example.login;  
  
import android.content.Context;  
import android.content.Intent;  
import android.content.SharedPreferences;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class RegistrationActivity extends AppCompatActivity {  
  
 EditText edtName, edtPhone, edtEmail, edtPassword;  
 Button btnRegister, btnLogin;  
  
 SharedPreferences sharedPreferences;  
 SharedPreferences.Editor editor;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_registration*);  
  
 edtName = findViewById(R.id.*name*);  
 edtPhone = findViewById(R.id.*phone*);  
 edtEmail = findViewById(R.id.*email*);  
 edtPassword = findViewById(R.id.*password*);  
 btnRegister = findViewById(R.id.*register\_button*);  
 btnLogin = findViewById(R.id.*login*);  
  
 // Initialize SharedPreferences  
 sharedPreferences = getSharedPreferences("UserPrefs", Context.*MODE\_PRIVATE*);  
 editor = sharedPreferences.edit();  
  
 btnRegister.setOnClickListener(v -> {  
 String name = edtName.getText().toString();  
 String phone = edtPhone.getText().toString();  
 String email = edtEmail.getText().toString();  
 String password = edtPassword.getText().toString();  
  
 // Validate inputs  
 if (TextUtils.*isEmpty*(name) || TextUtils.*isEmpty*(phone) || TextUtils.*isEmpty*(email) || TextUtils.*isEmpty*(password)) {  
 Toast.*makeText*(RegistrationActivity.this, "All fields are required", Toast.*LENGTH\_SHORT*).show();  
 } else {  
 // Save user details in SharedPreferences  
 editor.putString("Name", name);  
 editor.putString("Phone", phone);  
 editor.putString("Email", email);  
 editor.putString("Password", password);  
 editor.apply(); // Commit changes to SharedPreferences  
  
 Toast.*makeText*(RegistrationActivity.this, "Registration Successful", Toast.*LENGTH\_SHORT*).show();  
  
 // Redirect to login page  
 Intent intent = new Intent(RegistrationActivity.this, MainActivity.class);  
 startActivity(intent);  
 finish(); // Close registration activity  
 }  
 });  
  
 // Redirect to Login page  
 btnLogin.setOnClickListener(v -> {  
 Intent loginIntent = new Intent(RegistrationActivity.this, MainActivity.class);  
 startActivity(loginIntent);  
 finish();  
 });  
 }  
}

**WelcomeActivity**

***activity\_welcome.xml***

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:background="@drawable/background\_gradient"  
 tools:context=".WelcomeActivity">  
  
 <!-- Welcome TextView -->  
 <TextView  
 android:id="@+id/welcomeText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:text="@string/Welcome\_prompt"  
 android:textSize="24sp"  
 android:textColor="#FFFFFF"  
 android:textStyle="bold"  
 android:padding="20dp"  
 android:gravity="center" />  
  
 <!-- Logout Button -->  
 <Button  
 android:id="@+id/btnLogout"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/welcomeText"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="30dp"  
 android:text="@string/Logout"  
 android:textColor="#FFFFFF"  
 android:background="@drawable/button\_style"  
 android:textStyle="bold"  
 android:padding="10dp"  
 android:textSize="18sp" />  
  
</RelativeLayout>

******

***WelcomeActivity.java***

package com.example.login;  
  
import android.content.Intent;  
import android.content.SharedPreferences;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class WelcomeActivity extends AppCompatActivity {  
  
 TextView welcomeText;  
 Button btnLogout;  
 SharedPreferences sharedPreferences;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_welcome*);  
  
 // Find the views  
 welcomeText = findViewById(R.id.*welcomeText*);  
 btnLogout = findViewById(R.id.*btnLogout*);  
  
 // Initialize SharedPreferences  
 sharedPreferences = getSharedPreferences("UserPrefs", *MODE\_PRIVATE*);  
  
 // Retrieve the email from the intent  
 Intent intent = getIntent();  
 String email = intent.getStringExtra("email");  
  
 // Set the welcome message  
 if (email != null) {  
 welcomeText.setText(getString(R.string.*Welcome\_prompt*, email));  
 } else {  
 welcomeText.setText(getString(R.string.*Welcome\_prompt*));  
 }  
  
 // Handle logout button click  
 btnLogout.setOnClickListener(v -> {  
 // Clear session data  
 SharedPreferences.Editor editor = WelcomeActivity.this.sharedPreferences.edit();  
 editor.putBoolean("IsLoggedIn", false);  
 editor.remove("Email");  
 editor.remove("Password");  
 editor.apply();  
  
 // Inform the user  
 Toast.*makeText*(WelcomeActivity.this, "Logged out successfully", Toast.*LENGTH\_SHORT*).show();  
  
 // Go back to login  
 Intent loginIntent = new Intent(WelcomeActivity.this, MainActivity.class);  
 loginIntent.setFlags(Intent.*FLAG\_ACTIVITY\_CLEAR\_TOP* | Intent.*FLAG\_ACTIVITY\_NEW\_TASK*);  
 startActivity(loginIntent);  
 finish(); // Close the current activity  
 });  
 }  
}