305-2 MOBILE APPLICATION DEVELOPMENT -1

Practical Assignment

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Sub :- _305-02 Mobile Application Development – 1_PRACTICAL_

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1. Create a Mobile Application in Android to Display Welcome to SYBCA SEM-3 in middle of the screen with Background Color Yellow and Text Color Red.

activity_pra_ass_pro1.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#FFFF00"
    tools:context=".pra_ass_pro1">

    <TextView
        android:id="@+id/welcomeText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Welcome to SYBCA SEM-3"
        android:textColor="#FF0000"
        android:textSize="24sp"
        android:textStyle="bold" />

</RelativeLayout>
```

pra_ass_pro1.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class pra_ass_pro1 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro1);
    }
}
```
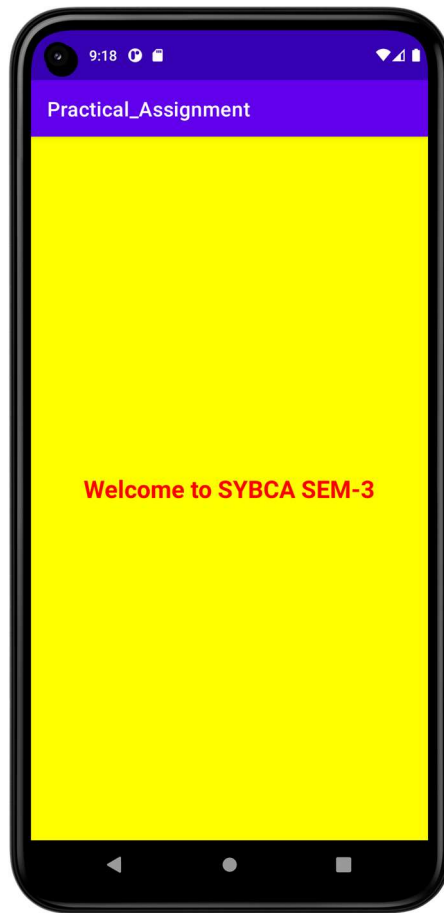
screenshots

2. **Create a Mobile Application in Android to hide title bar and open in Fullscreen Size and change the orientation of the screen on button click.**

activity_pra_ass_pro2.xml

```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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".pra_ass_pro2">

    <Button
        android:id="@+id/buttonChangeOrientation"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Change Orientation" />

</RelativeLayout>
```

pra_ass_pro2.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.content.pm.ActivityInfo;
import android.os.Bundle;
import android.view.View;
import android.view.Window;
import android.view.WindowManager;
import android.widget.Button;

public class pra_ass_pro2 extends AppCompatActivity {
    private Button buttonChangeOrientation;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        //hiding the title bar
        requestWindowFeature(Window.FEATURE_NO_TITLE);
        getSupportActionBar().hide();

this.getWindow().setFlags(WindowManager.LayoutParams.FLAG_FULLSCREEN,
                WindowManager.LayoutParams.FLAG_FULLSCREEN); //enable full
screen

        setContentView(R.layout.activity_pra_ass_pro2);


        buttonChangeOrientation =
findViewById(R.id.buttonChangeOrientation);

        buttonChangeOrientation.setOnClickListener(new
View.OnClickListener() {
```
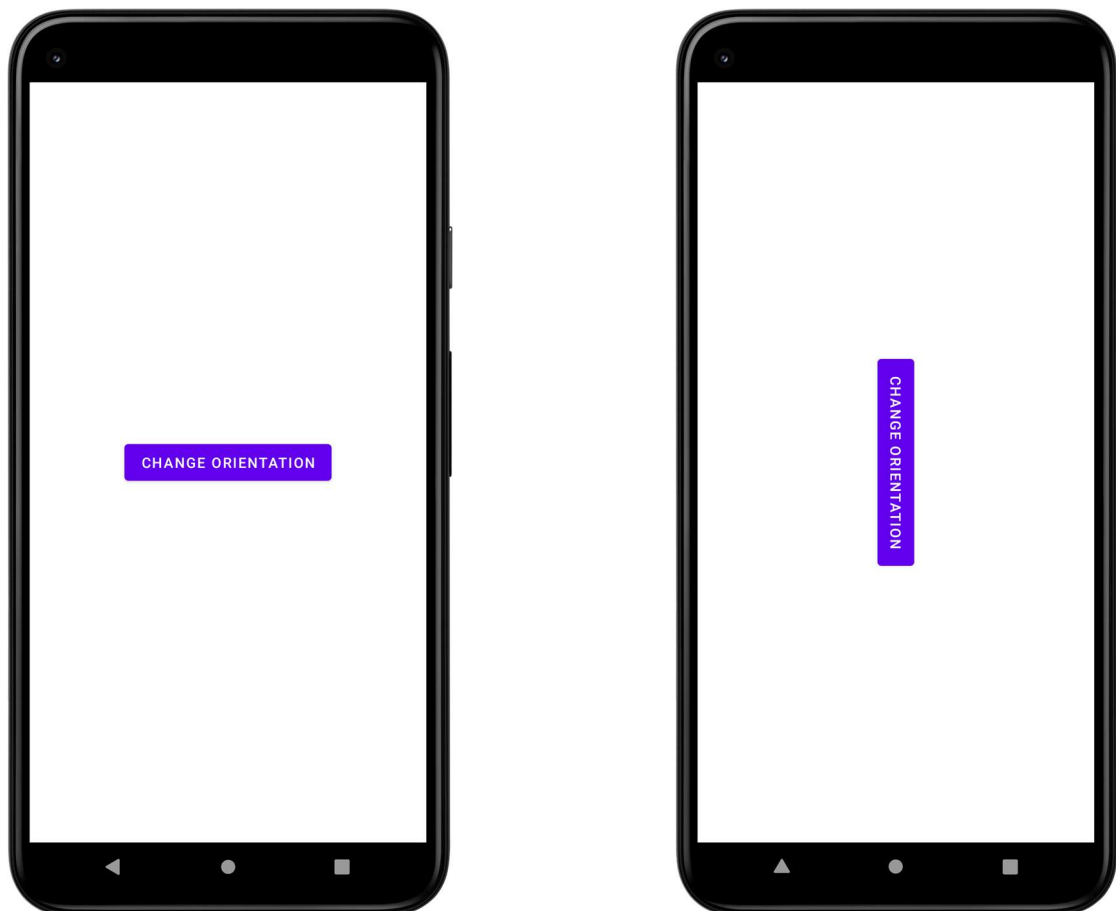
```
        @Override
        public void onClick(View view) {
            // Change screen orientation to landscape if it's currently
portrait, or vice versa
            if (getRequestedOrientation() ==
ActivityInfo.SCREEN_ORIENTATION_PORTRAIT) {

setRequestedOrientation(ActivityInfo.SCREEN_ORIENTATION_LANDSCAPE);
            } else {

setRequestedOrientation(ActivityInfo.SCREEN_ORIENTATION_PORTRAIT);
            }

        }
    });


    }
}
```

screenshots

3. Create a Mobile Application in Android to Display Good Morning with Username message using Toast.

activity_pra_ass_pro3.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/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:padding="16dp"
        tools:context=".pra_ass_pro3">

        <EditText
            android:id="@+id/usernameEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter your username" />

        <Button
            android:id="@+id/showMessageButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@id/usernameEditText"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="16dp"
            android:text="Show Message" />

    </RelativeLayout>
```

pra_ass_pro3.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class pra_ass_pro3 extends AppCompatActivity {
    private EditText usernameEditText;
    private Button showMessageButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro3);

        usernameEditText = findViewById(R.id.usernameEditText);
        showMessageButton = findViewById(R.id.showMessageButton);

        showMessageButton.setOnClickListener(new View.OnClickListener() {
```
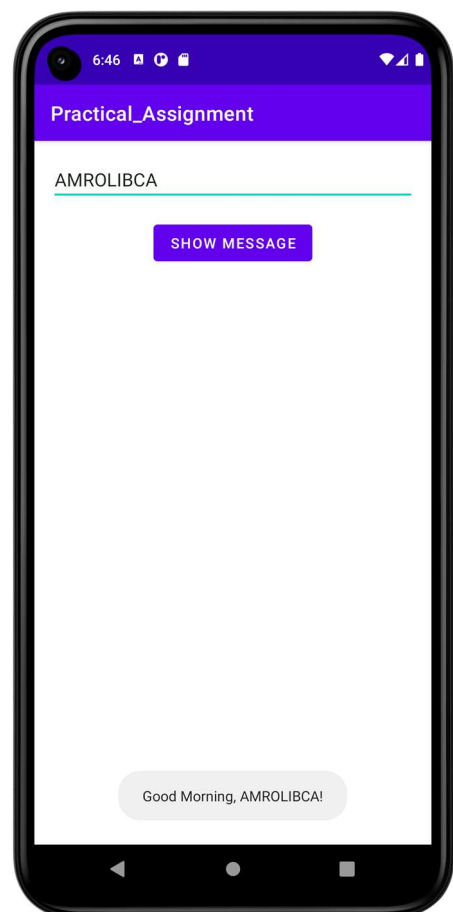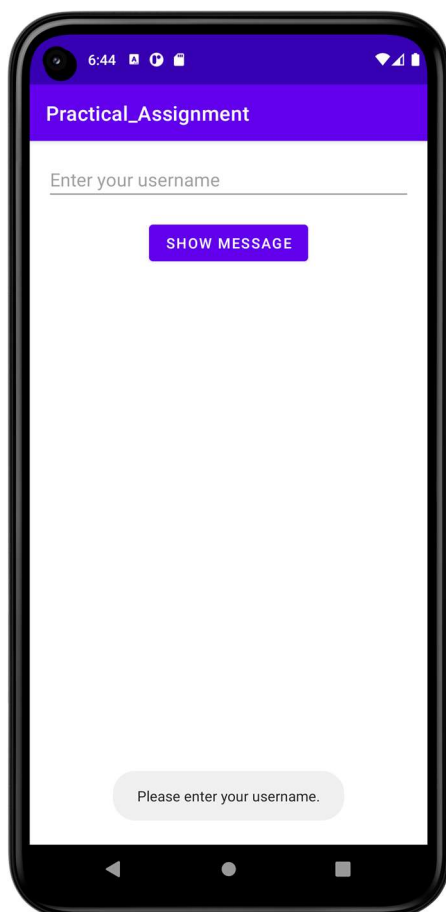
```
        @Override
        public void onClick(View view) {
            String username = usernameEditText.getText().toString();
            if (!username.isEmpty()) {
                String message = "Good Morning, " + username + "!";
                Toast.makeText(pra_ass_pro3.this, message,
Toast.LENGTH_SHORT).show();
            } else {
                Toast.makeText(pra_ass_pro3.this, "Please enter your
username.", Toast.LENGTH_SHORT).show();
            }
        }
    });
    }
}
```

screenshots

4. Create a Mobile Application in Android to Open a website in browser when user input URL and click Button using Intent.

activity_pra_ass_pro4.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".pra_ass_pro4">

    <TextView
        android:id="@+id/instructionsTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Enter a URL and click the button to open it in the
browser."
        android:textSize="16sp" />

    <EditText
        android:id="@+id/urlEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/instructionsTextView"
        android:layout_marginTop="16dp"
        android:hint="Enter URL (e.g., https://www.example.com)" />

    <Button
        android:id="@+id/openButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/urlEditText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Open in Browser" />

</RelativeLayout>
```

pra_ass_pro4.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class pra_ass_pro4 extends AppCompatActivity {
```
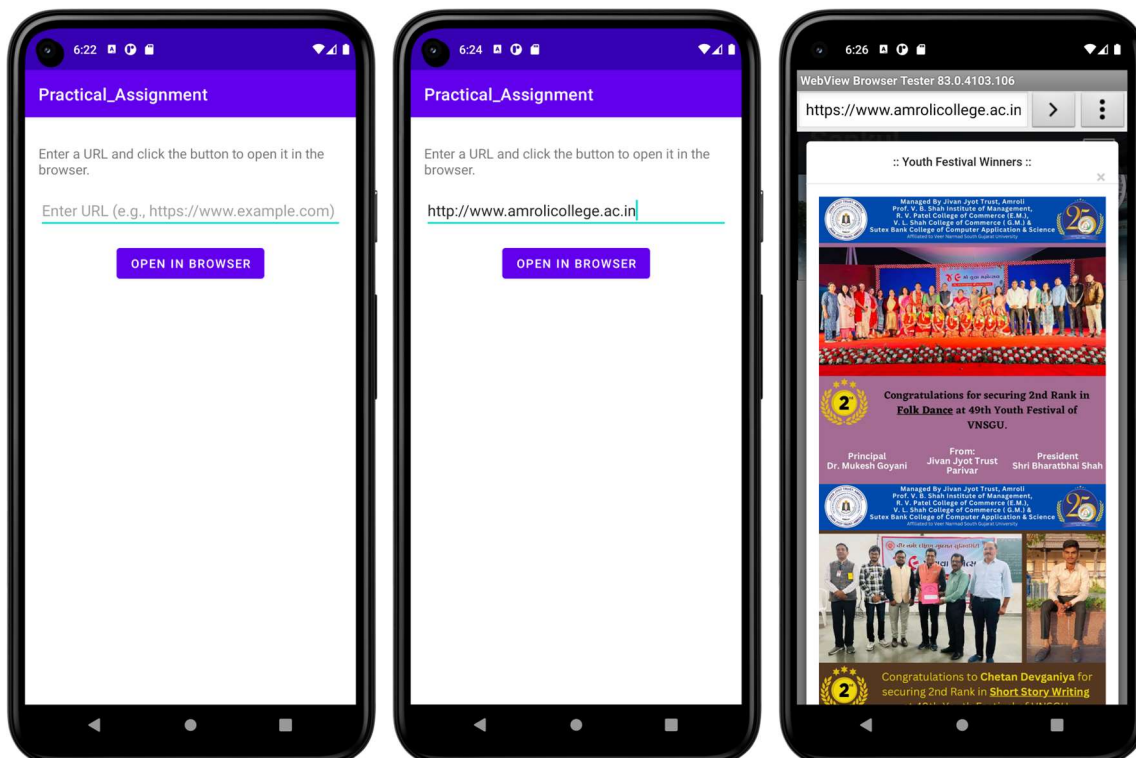
```java
    private EditText urlEditText;
    private Button openButton;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro4);

        urlEditText = findViewById(R.id.urlEditText);
        openButton = findViewById(R.id.openButton);
        openButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String url = urlEditText.getText().toString();
                if (!url.isEmpty()) {
                    if (!url.startsWith("http://") &&
!url.startsWith("https://")) {
                        url = "http://" + url;
                    }
                    Intent intent = new Intent(Intent.ACTION_VIEW,
Uri.parse(url));
                    startActivity(intent);
                } else {
                    Toast.makeText(pra_ass_pro4.this, "Please enter a valid
URL.", Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

screenshots

5. Create a Mobile Application in Android to Register User with Basic Details (Name, Email, Mobile, Gender, Username, Password) and Display Collected Information on next screen along with Registration Successful Toast Message.

Contains 2 Activities
1) activity_pra_ass_pro5_register.xml, pra_ass_pro5_register.java
2) activity_pra_ass_pro5_display_info.xml, pra_ass_pro5_display_info.java

1) activity_pra_ass_pro5_register.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".pra_ass_pro5_register">

    <TextView
        android:id="@+id/txtRegistration"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="User Registration"
        android:textSize="30dp"
        android:textStyle="bold"
        android:gravity="center"
        android:textColor="@color/teal_200"/>
    <EditText
        android:id="@+id/nameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/txtRegistration"
        android:hint="Name"
        android:inputType="textPersonName"/>

    <EditText
        android:id="@+id/emailEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/nameEditText"
        android:layout_marginTop="16dp"
        android:hint="Email"
        android:inputType="textEmailAddress"/>

    <EditText
        android:id="@+id/mobileEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/emailEditText"
        android:layout_marginTop="16dp"
        android:hint="Mobile"
        android:inputType="phone"/>
```

```xml
<!-- RadioGroup for Gender -->
<RadioGroup
    android:id="@+id/genderRadioGroup"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/mobileEditText"
    android:layout_marginTop="16dp"
    android:orientation="horizontal"
    android:gravity="center">

    <RadioButton
        android:id="@+id/maleRadioButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Male" />

    <RadioButton
        android:id="@+id/femaleRadioButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Female" />

    <RadioButton
        android:id="@+id/otherRadioButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Other" />
</RadioGroup>

<EditText
    android:id="@+id/usernameEditText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/genderRadioGroup"
    android:layout_marginTop="16dp"
    android:hint="Username"
    android:inputType="textEmailAddress"/>

<EditText
    android:id="@+id/passwordEditText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/usernameEditText"
    android:layout_marginTop="16dp"
    android:hint="Password"
    android:inputType="textPassword" />

<Button
    android:id="@+id/registerButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/passwordEditText"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="16dp"
    android:text="Register" />

</RelativeLayout>
```

pra_ass_pro5_register.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class pra_ass_pro5_register extends AppCompatActivity {
    private EditText nameEditText, emailEditText, mobileEditText,
usernameEditText, passwordEditText;
    private RadioGroup genderRadioGroup;
    private Button registerButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro5_register);

        nameEditText = findViewById(R.id.nameEditText);
        emailEditText = findViewById(R.id.emailEditText);
        mobileEditText = findViewById(R.id.mobileEditText);
        genderRadioGroup = findViewById(R.id.genderRadioGroup);
        usernameEditText = findViewById(R.id.usernameEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
        registerButton = findViewById(R.id.registerButton);

        registerButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                // Get user inputs
                String name = nameEditText.getText().toString();
                String email = emailEditText.getText().toString();
                String mobile = mobileEditText.getText().toString();
                String gender = getSelectedGender();
                String username = usernameEditText.getText().toString();
                String password = passwordEditText.getText().toString();

                // Perform validation
                if (name.isEmpty() ) {
                    // Input is empty, show an error message
                    nameEditText.setError("Name cannot be empty");
                }
                else if (email.isEmpty())
                {
                    emailEditText.setError("Email cannot be empty");
                }
                else if (mobile.isEmpty())
                {
                    mobileEditText.setError("Mobile cannot be empty");
                }
                else if (gender.isEmpty())
                {   // No RadioButton selected, show an error message
                    Toast.makeText(pra_ass_pro5_register.this, "Please
```

```java
select a gender..!", Toast.LENGTH_SHORT).show();
                }
                else if(username.isEmpty())
                {
                    usernameEditText.setError("Username cannot be empty");
                }
                else if (password.isEmpty())
                {
                    passwordEditText.setError("Password cannot be empty");
                }
                else
                {
                    // Remove the error message if it was previously
displayed
                    nameEditText.setError(null);
                    emailEditText.setError(null);
                    mobileEditText.setError(null);
                    usernameEditText.setError(null);
                    passwordEditText.setError(null);

                    // Display a registration successful toast
                    Toast.makeText(pra_ass_pro5_register.this,
"Registration Successful", Toast.LENGTH_SHORT).show();

                    // Create an Intent to navigate to the next screen
(display collected information)
                    Intent intent = new Intent(pra_ass_pro5_register.this,
pra_ass_pro5_display_info.class);
                    intent.putExtra("name", name);
                    intent.putExtra("email", email);
                    intent.putExtra("mobile", mobile);
                    intent.putExtra("gender", gender);
                    intent.putExtra("username", username);

                    startActivity(intent);
                }

            }
        });
    }
    private String getSelectedGender() {
        int selectedId = genderRadioGroup.getCheckedRadioButtonId();
        if (selectedId != -1) {
            // If RadioButton selected, send Gender Text else Empty Text
            RadioButton selectedRadioButton = findViewById(selectedId);
            return selectedRadioButton.getText().toString();
        }
        return "";
    }
}
```

2) activity_pra_ass_pro5_display_info.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```xml
        android:padding="16dp"
        tools:context=".pra_ass_pro5_display_info">
    <TextView
        android:id="@+id/txtRegistration"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Registered User Details"
        android:textSize="30dp"
        android:textStyle="bold"
        android:gravity="center"
        android:textColor="@color/purple_500"/>

    <TextView
        android:id="@+id/infoTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="18sp"
        android:textStyle="bold"
        android:layout_centerInParent="true" />

</RelativeLayout>
```

pra_ass_pro5_display_info.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class pra_ass_pro5_display_info extends AppCompatActivity {
    private TextView infoTextView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro5_display_info);
        infoTextView = findViewById(R.id.infoTextView);

        // Retrieve the collected information from the Intent
        Intent intent = getIntent();
        String name = intent.getStringExtra("name");
        String email = intent.getStringExtra("email");
        String mobile = intent.getStringExtra("mobile");
        String gender = intent.getStringExtra("gender");
        String username = intent.getStringExtra("username");

        // Display the collected information
        String infoText = "Name: " + name + "\n" +
                "Email: " + email + "\n" +
                "Mobile: " + mobile + "\n" +
                "Gender: " + gender + "\n" +
                "Username: " + username;
        infoTextView.setText(infoText);
    }
}
```
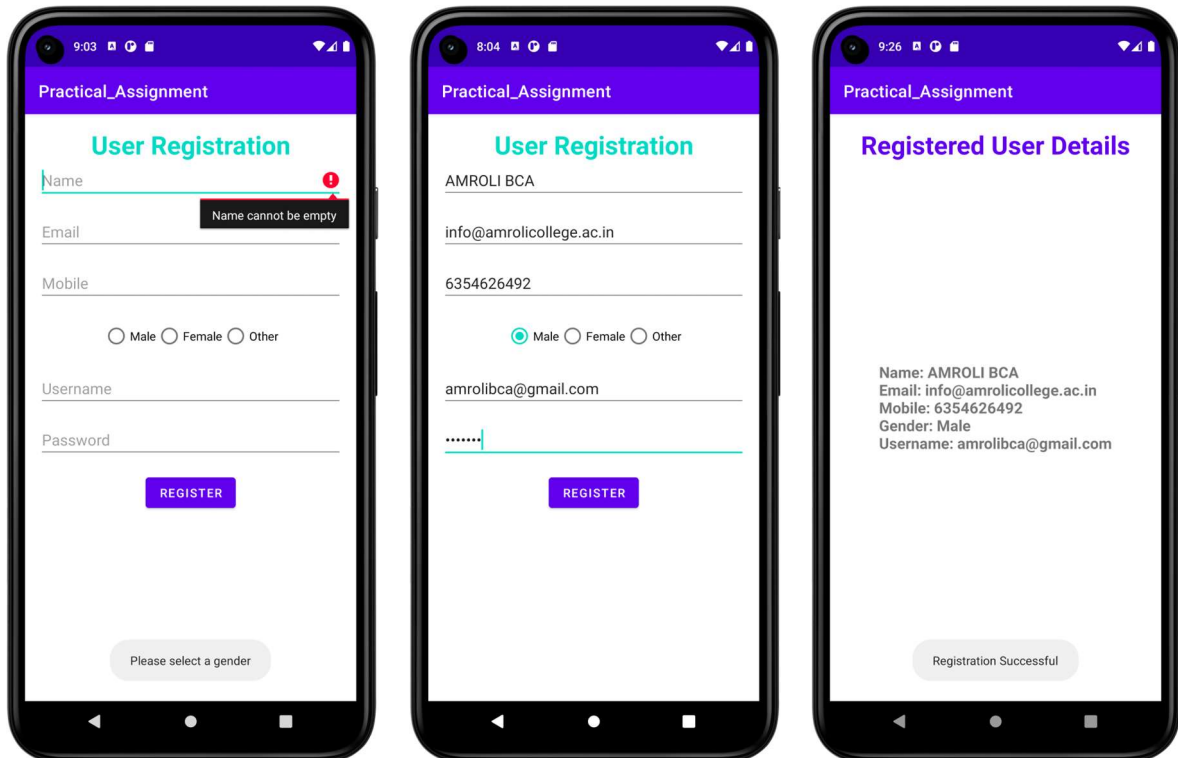
screenshots

6. Create a Mobile Application in Android for User Login. If user provides correct details show next screen with Login Successful Message else show Error in Login Message using Toast.

Contains 2 Activities
1) activity_pra_ass_pro6_login.xml, pra_ass_pro6_login.java
2) activity_pra_ass_pro6_welcome_user.xml, pra_ass_pro6_welcome_user.java

1) activity_pra_ass_pro6_login.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".pra_ass_pro6_login">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:orientation="vertical"
        android:background="#7A5FA395">

        <TextView
            android:id="@+id/txtRegistration"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center"
            android:text="Login to Student Portal"
            android:textColor="@color/teal_700"
            android:textSize="30dp"
            android:textStyle="bold" />

        <EditText
            android:id="@+id/usernameEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Username" />

        <EditText
            android:id="@+id/passwordEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/usernameEditText"
            android:layout_marginTop="16dp"
            android:hint="Password"
            android:inputType="textPassword" />

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

```xml
            android:layout_below="@id/passwordEditText"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="16dp"
            android:text="Login"/>
    </LinearLayout>
</RelativeLayout>
```

pra_ass_pro6_login.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

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

public class pra_ass_pro6_login extends AppCompatActivity {
    private EditText usernameEditText;
    private EditText passwordEditText;
    private Button loginButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro6_login);
        usernameEditText = findViewById(R.id.usernameEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
        loginButton = findViewById(R.id.loginButton);
        loginButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = usernameEditText.getText().toString();
                String password = passwordEditText.getText().toString();
                // Perform validation
                if (username.isEmpty() ) {
                    // Input is empty, show an error message
                    usernameEditText.setError("Username cannot be empty");
                }
                else if (password.isEmpty())
                {
                    passwordEditText.setError("Password cannot be empty");
                }
                else{
                    // Remove the error message if it was previously
displayed
                    usernameEditText.setError(null);
                    passwordEditText.setError(null);
                    // Check for hardcoded username and password (demo
purpose)
                    if (username.equals("amrolibca") &&
password.equals("123")) {
                        // Login successful, show a toast message and Move
to next Activity
                        Toast.makeText(pra_ass_pro6_login.this, "Login
Successful", Toast.LENGTH_SHORT).show();
                        Intent intent = new Intent(pra_ass_pro6_login.this,
```

```
pra_ass_pro6_welcome_user.class);
                        intent.putExtra("username", username);
                        startActivity(intent);

                } else {
                        // Login failed, show an error toast message
                        Toast.makeText(pra_ass_pro6_login.this, "Incorrect
Username or Password...!", Toast.LENGTH_SHORT).show();
                }
            }

        }
    });
    }
}
```

2) activity_pra_ass_pro6_welcome_user.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="0dp"
    tools:context=".pra_ass_pro6_welcome_user">

    <ImageView
        android:id="@+id/successImageView"
        android:layout_width="400dp"
        android:layout_height="400dp"
        android:scaleType="center"

        android:src="@drawable/welcome_user" />

    <TextView
        android:id="@+id/welcomeTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/successImageView"
        android:layout_centerHorizontal="true"
        android:padding="20dp"
        android:text="Welcome "
        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>
```

pra_ass_pro6_welcome_user.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.TextView;

public class pra_ass_pro6_welcome_user extends AppCompatActivity {
```
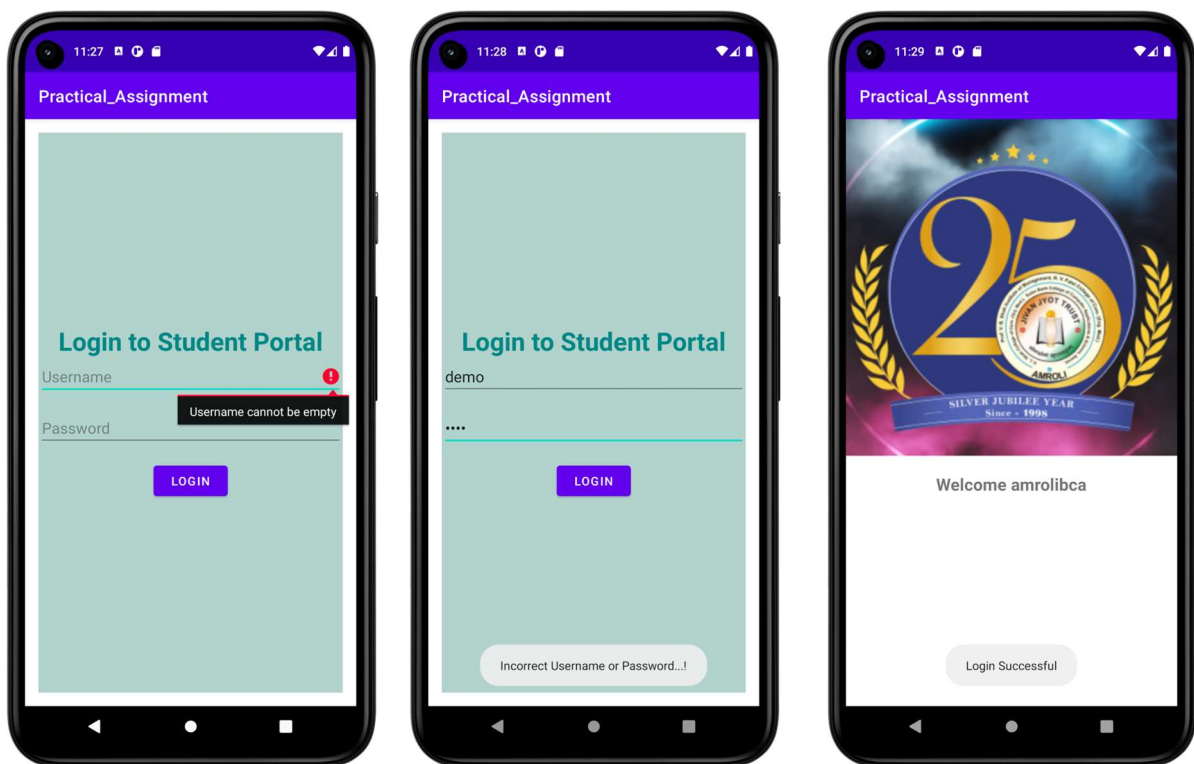
```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro6_welcome_user);
        TextView welcomeTextView = findViewById(R.id.welcomeTextView);
        // Retrieve the username from the Intent
        String username = getIntent().getStringExtra("username");
        // Display the welcome message with the username
        welcomeTextView.setText("Welcome " + username);
    }
}
```

screenshots

7. Create a Mobile Application in Android to Create a Todo List.

activity_pra_ass_pro7_todo.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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".pra_ass_pro7_todo">
    <TextView
        android:id="@+id/welcomeTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:padding="10dp"
        android:text="Simple To-do List Demo "
        android:textSize="20sp"
        android:gravity="center"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/todoEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Add a new task"
        android:imeOptions="actionDone"
        android:inputType="text"
        android:maxLines="1"
        android:padding="10dp" />

    <Button
        android:id="@+id/addButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Add Task"
        android:padding="10dp" />

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:padding="10dp">

        <LinearLayout
            android:id="@+id/todoListLayout"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:outlineAmbientShadowColor="@color/purple_500"
            android:outlineSpotShadowColor="@color/teal_200"
            android:background="@drawable/border"
            android:padding="10dip">
        </LinearLayout>
    </ScrollView>
</LinearLayout>
```

pra_ass_pro7_todo.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Typeface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.LinearLayout;
import android.widget.TextView;
import android.widget.Toast;

public class pra_ass_pro7_todo extends AppCompatActivity {
    private EditText todoEditText;
    private Button addButton;
    private LinearLayout todoListLayout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro7_todo);
        todoEditText = findViewById(R.id.todoEditText);
        addButton = findViewById(R.id.addButton);
        todoListLayout = findViewById(R.id.todoListLayout);

        addButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String taskTitle =
todoEditText.getText().toString().trim();
                if (!taskTitle.isEmpty()) {
                    // Create a new TextView for the task
                    TextView taskTextView = new
TextView(pra_ass_pro7_todo.this);
                    taskTextView.setText(taskTitle);
                    taskTextView.setTextSize(18); // Set text size in SP
                    taskTextView.setTypeface(null, Typeface.BOLD); // Set
text style (bold)
                    taskTextView.setPadding(10,10,10,10);
                    // Add the TextView to the LinearLayout
                    todoListLayout.addView(taskTextView);
                    // Clear the EditText
                    todoEditText.setText("");
                }
                else{
                    //Show Toast to type in a todo Item
                    Toast.makeText(pra_ass_pro7_todo.this, "Please type in
a todo Item...!", Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```
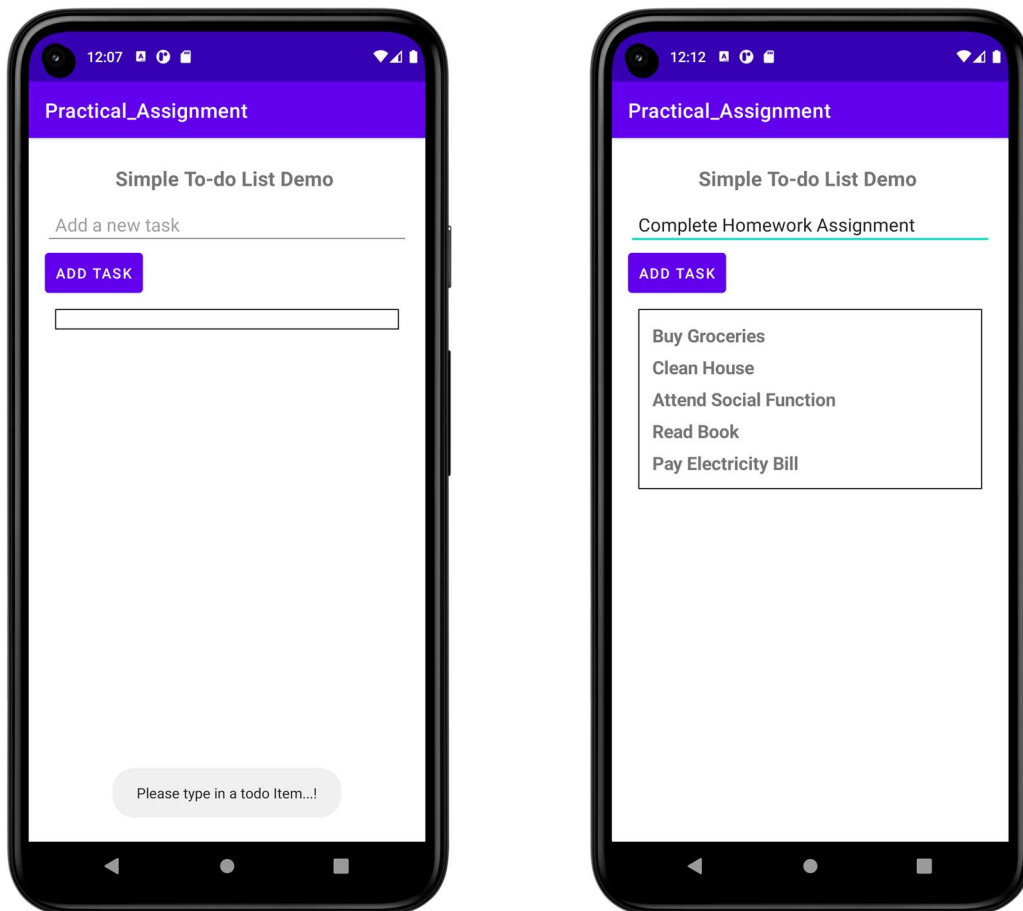
screenshots

8. Create a Mobile Application in Android for Changing color of the Screen when user clicks on particular Radio button with Color name.

activity_pra_ass_pro8_colorchanger.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    android:id="@+id/mainRLayout"
    tools:context=".pra_ass_pro8_colorchanger">
    <TextView
        android:id="@+id/welcomeTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:padding="10dp"
        android:text="Change color on Radiobutton Click..!"
        android:textSize="20sp"
        android:gravity="center"
        android:textStyle="bold" />
    <RadioGroup
        android:id="@+id/colorRadioGroup"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_below="@id/welcomeTextView">

        <RadioButton
            android:id="@+id/redRadioButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Red" />

        <RadioButton
            android:id="@+id/blueRadioButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Blue" />
        <RadioButton
            android:id="@+id/yellowRadioButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Yellow" />
        <RadioButton
            android:id="@+id/greenRadioButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Green" />
    </RadioGroup>

</RelativeLayout>
```

pra_ass_pro7_todo.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.RelativeLayout;

public class pra_ass_pro8_colorchanger extends AppCompatActivity {
    private RadioGroup colorRadioGroup;
    private RelativeLayout mainLayout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro8_colorchanger);

        colorRadioGroup = findViewById(R.id.colorRadioGroup);
        mainLayout = findViewById(R.id.mainRLayout);

        colorRadioGroup.setOnCheckedChangeListener(new
RadioGroup.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(RadioGroup radioGroup, int i) {
                // Check which radio button is selected
                RadioButton selectedRadioButton = findViewById(i);

                // Change the background color based on the selected radio
button
                if (selectedRadioButton != null) {
                    String colorName =
selectedRadioButton.getText().toString();
                    if (colorName.equals("Red")) {

mainLayout.setBackgroundColor(getResources().getColor(android.R.color.holo_
red_light));
                    } else if (colorName.equals("Blue")) {

mainLayout.setBackgroundColor(getResources().getColor(android.R.color.holo_
blue_light));
                    } else if (colorName.equals("Green")) {

mainLayout.setBackgroundColor(getResources().getColor(R.color.Green));
                    } else if (colorName.equals("Yellow")) {

mainLayout.setBackgroundColor(getResources().getColor(R.color.Yellow));
                    }
                }

            }
        });


    }
}
```
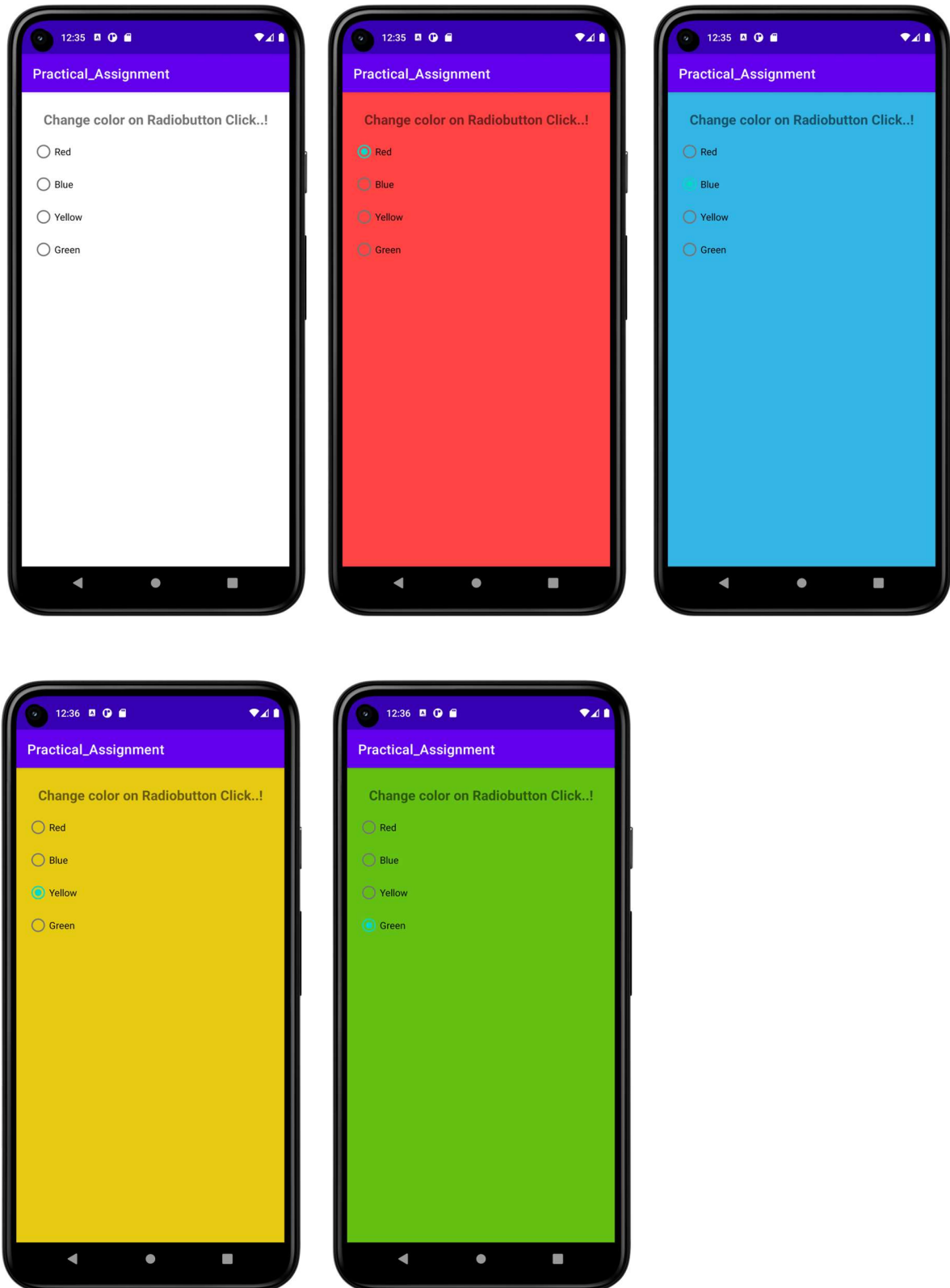
screenshots

9. Create a Mobile Application in Android for basic Calculator which takes Input in two Edit Text and display result. Perform Addition, Subtraction, Division and Multiplication Operations.

activity_pra_ass_pro9_calculator.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/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".pra_ass_pro9_calculator">
    <TextView
        android:id="@+id/welcomeTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:padding="10dp"
        android:text="Basic Calculator Demo..!"
        android:textSize="20sp"
        android:gravity="center"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/firstNumberEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter the first number"
        android:inputType="numberDecimal"
        android:layout_below="@id/welcomeTextView"/>

    <EditText
        android:id="@+id/secondNumberEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/firstNumberEditText"
        android:layout_marginTop="16dp"
        android:hint="Enter the second number"
        android:inputType="numberDecimal" />

    <Button
        android:id="@+id/addButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/secondNumberEditText"
        android:layout_marginTop="16dp"
        android:text="+"
        android:layout_marginLeft="70dp"
        android:gravity="center"/>

    <Button
        android:id="@+id/subtractButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_toRightOf="@id/addButton"
```

```xml
            android:layout_below="@+id/secondNumberEditText"
            android:layout_marginLeft="70dp"
            android:layout_marginTop="16dp"
            android:text="-" />

    <Button
            android:id="@+id/multiplyButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/addButton"
            android:layout_marginTop="16dp"
            android:layout_marginLeft="70dp"
            android:text="*" />

    <Button
            android:id="@+id/divideButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_toRightOf="@id/multiplyButton"
            android:layout_below="@+id/addButton"
            android:layout_marginLeft="70dp"
            android:layout_marginTop="16dp"
            android:text="/" />

    <Button
            android:id="@+id/calculateButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/multiplyButton"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="16dp"
            android:text="Calculate" />

    <TextView
            android:id="@+id/resultTextView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/calculateButton"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="16dp"
            android:padding="10dp"
            android:background="@drawable/border"
            android:text="Result: "
            android:textSize="20sp" />

</RelativeLayout>
```

pra_ass_pro9_claculator.java

```java
package com.example.practical_assignment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
```

```java
public class pra_ass_pro9_calculator extends AppCompatActivity {
    private EditText firstNumberEditText;
    private EditText secondNumberEditText;
    private Button addButton;
    private Button subtractButton;
    private Button multiplyButton;
    private Button divideButton;
    private Button calculateButton;
    private TextView resultTextView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pra_ass_pro9_calculator);
        // Initialize UI elements
        firstNumberEditText = findViewById(R.id.firstNumberEditText);
        secondNumberEditText = findViewById(R.id.secondNumberEditText);
        addButton = findViewById(R.id.addButton);
        subtractButton = findViewById(R.id.subtractButton);
        multiplyButton = findViewById(R.id.multiplyButton);
        divideButton = findViewById(R.id.divideButton);
        calculateButton = findViewById(R.id.calculateButton);
        resultTextView = findViewById(R.id.resultTextView);

        // Set click listeners for operator buttons
        addButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                performOperation("+");
            }
        });
        subtractButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                performOperation("-");
            }
        });
        multiplyButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                performOperation("*");
            }
        });
        divideButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                performOperation("/");
            }
        });
        // Set click listener for the Calculate button
        calculateButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                calculateResult();
            }
        });
    }
    // Perform the selected operation (+, -, *, /)
    private void performOperation(String operator) {
        String num1Str = firstNumberEditText.getText().toString();
        String num2Str = secondNumberEditText.getText().toString();
```

```java
        if (!num1Str.isEmpty() && !num2Str.isEmpty()) {
            double num1 = Double.parseDouble(num1Str);
            double num2 = Double.parseDouble(num2Str);

            double result = 0;

            switch (operator) {
                case "+":
                    result = num1 + num2;
                    break;
                case "-":
                    result = num1 - num2;
                    break;
                case "*":
                    result = num1 * num2;
                    break;
                case "/":
                    if (num2 != 0) {
                        result = num1 / num2;
                    } else {
                        resultTextView.setText("Error: Division by zero");
                        return;
                    }
                    break;
            }

            resultTextView.setText("Result: " + result);
        } else {
            resultTextView.setText("Enter valid numbers");
        }
    }

    // Calculate and display the result
    private void calculateResult() {
        performOperation("+");
    }
}
```
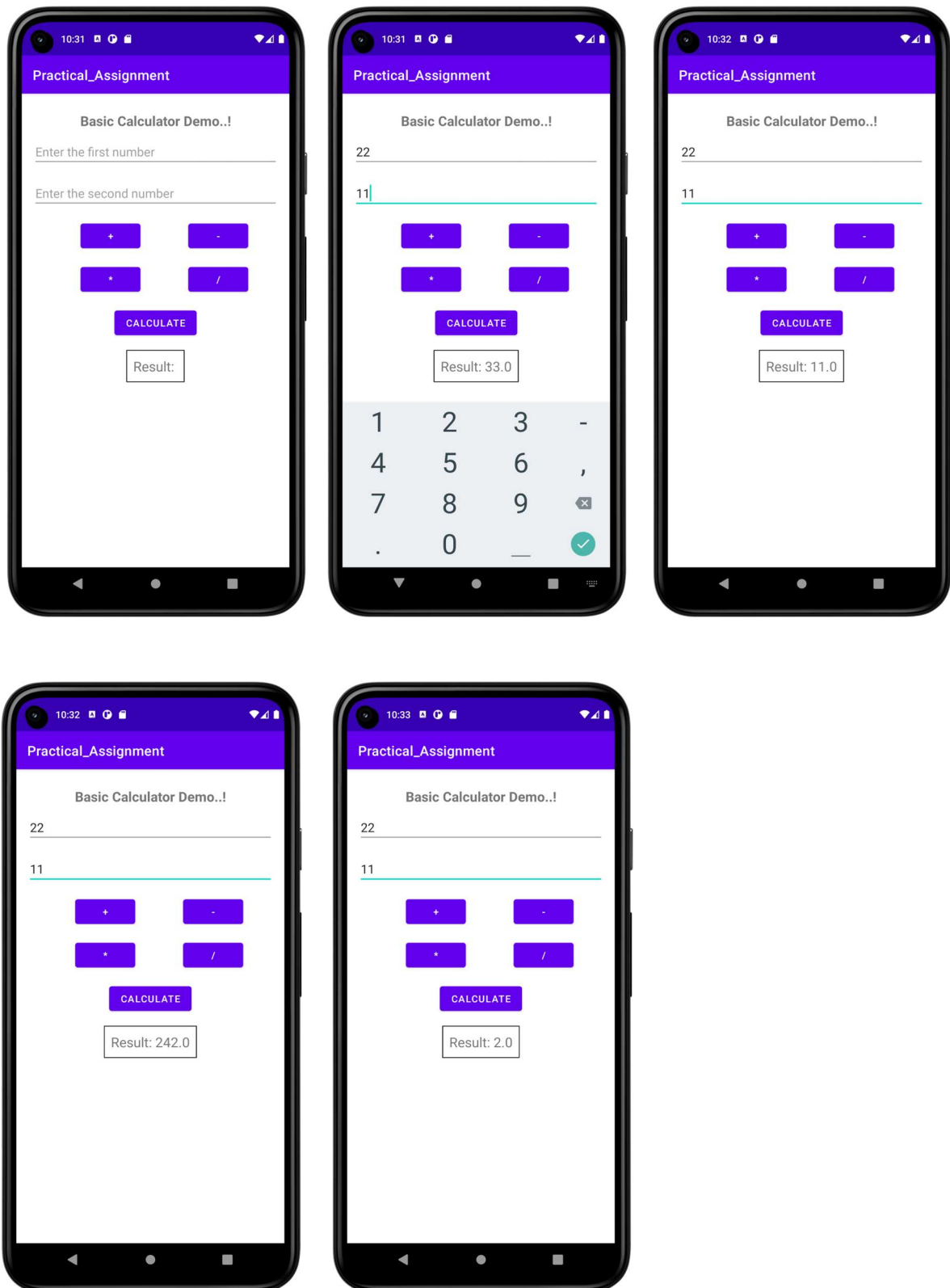
screenshots

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"
    package="com.example.practical_assignment">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@drawable/ic_launcher_background"
        android:label="@string/app_name"
        android:roundIcon="@drawable/ic_launcher_background"
        android:supportsRtl="true"
        android:theme="@style/Theme.Practical_Assignment"
        tools:targetApi="31">
        <activity
            android:name=".pra_ass_pro9_calculator"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro8_colorchanger"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro7_todo"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro6_welcome_user"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro6_login"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro5_display_info"
            android:exported="false" />
        <activity
            android:name=".pra_ass_pro5_register"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro4"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER"
/>
            </intent-filter>
        </activity>
        <activity
            android:name=".pra_ass_pro3"
            android:exported="true" />
        <activity
            android:name=".pra_ass_pro1"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.SEND" />

                <category android:name="android.intent.category.DEFAULT" />
```

```xml
            <data android:mimeType="text/plain" />
        </intent-filter>
    </activity>
    <activity
        android:name=".pra_ass_pro2"
        android:exported="true"
        android:screenOrientation="portrait">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

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

Res/drawable/border.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android"
    android:shape="rectangle">
    <stroke
        android:width="1dip"
        android:color="@android:color/black" />
</shape>
```

Res/values/colors.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="Green">#64C013</color>
    <color name="Yellow">#E7CB13</color>
</resources>
```

Res/drawable/welcome_user.png