

PROGRAM NO : 1

DATE :30/08/22

LOGIN FORM

AIM

Design a Login Form with username and password using LinearLayout and toast valid credentials

XML CODE

```
<?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:layout_width="match_parent"
    android:layout_height="wrap_content"
    tools:context=".MainActivity">
```

```
<LinearLayout
    android:layout_width="396dp"
    android:layout_height="153dp"
    android:orientation="vertical"
    tools:layout_editor_absoluteX="10dp"
    tools:layout_editor_absoluteY="217dp">
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="52dp"
    android:orientation="horizontal">
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Username" />
```

```
<EditText
    android:id="@+id/usern"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
```

```
android:ems="10"
android:inputType="textPersonName"
android:text=" " />
</LinearLayout>
```

```
<LinearLayout
android:layout_width="match_parent"
android:layout_height="47dp"
android:orientation="horizontal">
```

```
<TextView
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="Password" />
```

```
<EditText
android:id="@+id/pass"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
android:inputType="textPersonName"
android:text="" />
</LinearLayout>
```

```
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal">
```

```
<Button
android:id="@+id/button3"
android:layout_width="176dp"
android:layout_height="match_parent"
android:onClick="click"
android:text="Login" />
</LinearLayout>
```

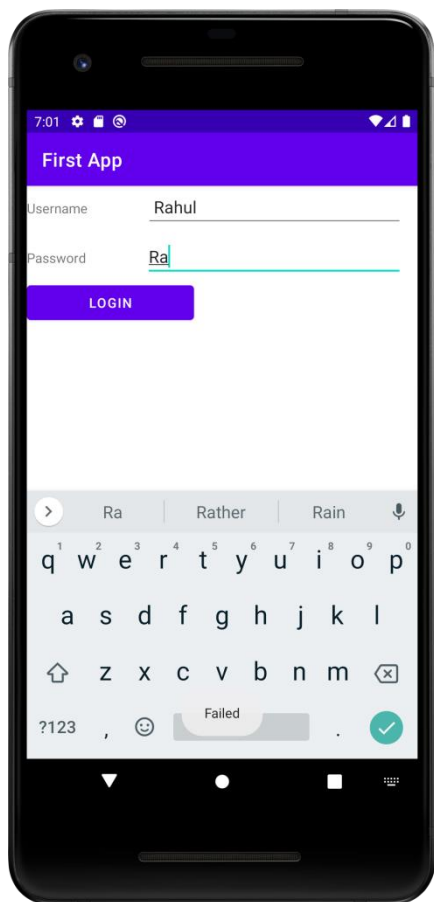
```
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA CODE

```
package com.example.myapplication;
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 MainActivity extends AppCompatActivity {
    EditText e1,e2;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.txt1);
        e2=findViewById(R.id.txt2);
        b1=findViewById(R.id.btn1);
    }
    public void login(View view) {
        String user = e1.getText().toString();
        String pass = e2.getText().toString();

        if (user.equals("rahul") &&pass.equals("rahul")) {
            Toast.makeText(this, "Login Successfull", Toast.LENGTH_SHORT).show();
        } else {
            Toast.makeText(this, "Login Failed", Toast.LENGTH_SHORT).show();
        }
    }
}
```

Output



PROGRAM NO :2

DATE :03/09/22

ACTIVITY LIFECYCLE

AIM

Write a program that demonstrates Activity Lifecycle

XML CODE

```
<?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: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>
```

JAVA CODE

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

```
Toast.makeText(this, "onCreate", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onStart(){
super.onStart();
Toast.makeText(this, "onStart", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onResume(){
super.onResume();
Toast.makeText(this, "onResume", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onRestart(){
super.onRestart();
Toast.makeText(this, "onRestart", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onPause(){
super.onPause();
Toast.makeText(this, "onPause", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onStop(){
super.onStop();
Toast.makeText(this, "onStop", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onDestroy(){
super.onDestroy();
Toast.makeText(this, "onDestroy", Toast.LENGTH_SHORT).show();
    }
}
```

OUTPUT



PROGRAM NO :3

DATE :10/09/22

SIMPLE CALCULATOR

AIM

Implementing basic arithmetic operations of a simple calculator

XML CODE

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

```
<LinearLayout
android:layout_width="409dp"
android:layout_height="729dp"
android:orientation="vertical"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="1dp">
```

```
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal">
```

```
<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="Number !" />
```

```
<EditText
android:id="@+id/f1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
android:inputType="textPersonName"
android:text="" />
```



```
</LinearLayout>
```

```
<LinearLayout  
android:layout_width="match_parent"  
android:layout_height="wrap_content"  
android:orientation="horizontal">
```

```
<TextView  
android:id="@+id/textView2"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_weight="1"  
android:text="Number 2" />
```

```
<EditText  
android:id="@+id/f2"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_weight="1"  
android:ems="10"  
android:inputType="textPersonName"  
android:text="" />
```

```
</LinearLayout>
```

```
<TableRow  
android:layout_width="441dp"  
android:layout_height="52dp">
```

```
<Button  
android:id="@+id/add"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:onClick="add"  
android:text="ADD" />
```

```
<Button  
android:id="@+id/sub"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:onClick="sub"  
android:text="SUB" />
```

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

```

        android:onClick="mul"
        android:text="MUL" />

<Button
    android:id="@+id/div"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="div"
    android:text="DIV" />
</TableRow>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="32dp"
    android:orientation="horizontal">

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Result" />

    <TextView
        android:id="@+id/result"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="" />

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

```

JAVA CODE

```

package com.example.myappcal;

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;

```

```

public class MainActivity extends AppCompatActivity {
    EditText Firtnum, Secnum;
    TextView res;
    Button Btnadd, Btnsub, Btnmul, Btndiv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Firtnum=findViewById(R.id.f1);
        Secnum=findViewById(R.id.f2);
        res=findViewById(R.id.result);
        Btnadd=findViewById(R.id.add);
        Btnsub=findViewById(R.id.sub);
        Btnmul=findViewById(R.id.mul);
        Btndiv=findViewById(R.id.div);
    }

    public void add(View view) {
        int num1=Integer.parseInt(Firtnum.getText().toString());
        int num2=Integer.parseInt(Secnum.getText().toString());
        int sum = num1+num2;

        res.setText(sum+"");
    }

    public void sub(View view) {
        int num1=Integer.parseInt(Firtnum.getText().toString());
        int num2=Integer.parseInt(Secnum.getText().toString());
        int sum = num1-num2;

        res.setText(sum+"");
    }

    public void mul(View view) {
        int num1=Integer.parseInt(Firtnum.getText().toString());
        int num2=Integer.parseInt(Secnum.getText().toString());
        int sum = num1*num2;

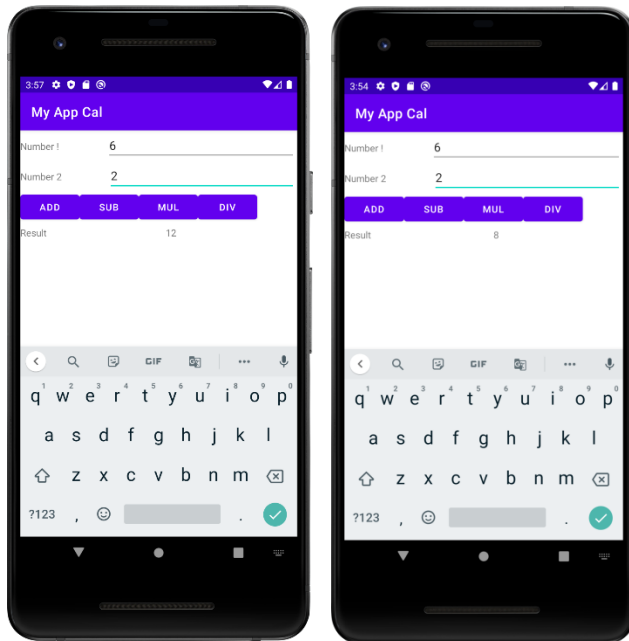
        res.setText(sum+"");
    }

    public void div(View view) {
        int num1=Integer.parseInt(Firtnum.getText().toString());
        int num2=Integer.parseInt(Secnum.getText().toString());

```

```
int sum = num1/num2;  
  
res.setText(sum+"");  
  
}  
}
```

OUTPUT



PROGRAM NO :4

DATE :20/09/22

FORM VALIDATION

AIM

Implement validations on various UI controls

XML CODE

```
<?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:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
```

```
<LinearLayout
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical"
tools:layout_editor_absoluteX="-16dp"
tools:layout_editor_absoluteY="-48dp">
```

```
<LinearLayout
android:layout_width="407dp"
android:layout_height="45dp"
android:orientation="horizontal">
```

```
<EditText
android:id="@+id/fname"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
android:inputType="textPersonName"
android:text="First Name" />
```

```
<EditText
android:id="@+id/lname"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
```

```
android:inputType="textPersonName"
android:text="Last Name" />
```

```
</LinearLayout>
```

```
<LinearLayout
android:layout_width="413dp"
android:layout_height="48dp"
android:orientation="horizontal">
```

```
<TextView
android:id="@+id/textView9"
android:layout_width="51dp"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="Password" />
```

```
<EditText
android:id="@+id/passw"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
android:inputType="textPassword" />
```

```
</LinearLayout>
```

```
<LinearLayout
android:layout_width="408dp"
android:layout_height="42dp"
android:orientation="horizontal">
```

```
<TextView
android:id="@+id/textView8"
android:layout_width="57dp"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="Email" />
```

```
<EditText
android:id="@+id/email"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:ems="10"
android:inputType="textEmailAddress" />
```

```
</LinearLayout>
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="55dp"  
    android:orientation="horizontal">
```

```
<TextView  
    android:id="@+id/textView11"  
    android:layout_width="53dp"  
    android:layout_height="wrap_content"  
    android:layout_weight="1"  
    android:text="Date of Birth" />
```

```
<EditText  
    android:id="@+id/dat"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_weight="1"  
    android:ems="10"  
    android:hint="dd/mm/yyyy"  
    android:inputType="date" />
```

```
</LinearLayout>
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="111dp"  
    android:orientation="horizontal">
```

```
<RadioGroup  
    android:id="@+id/gp"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">
```

```
<RadioButton  
    android:id="@+id/rb1"  
    android:layout_width="match_parent"  
    android:layout_height="35dp"  
    android:text="Male" />
```

```
<RadioButton  
    android:id="@+id/rb2"  
    android:layout_width="match_parent"  
    android:layout_height="34dp"  
    android:text="Female" />
```

```
<RadioButton
android:id="@+id/rb3"
android:layout_width="424dp"
android:layout_height="wrap_content"
android:text="Other" />
</RadioGroup>
</LinearLayout>
```

```
<LinearLayout
android:layout_width="410dp"
android:layout_height="50dp"
android:orientation="horizontal">
```

```
<CheckBox
android:id="@+id/chb"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="All are correct" />
```

```
</LinearLayout>
```

```
<LinearLayout
android:layout_width="413dp"
android:layout_height="56dp"
android:orientation="horizontal">
```

```
<Button
android:id="@+id/btn1"
android:onClick="register"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"
android:text="Register" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

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


JAVA CODE

```
package com.example.validation;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText first, second, email, pass;
    RadioButton male, female, other;
    CheckBox c;
    RadioGroup g;
    Boolean val;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        first=findViewById(R.id.fname);
        second=findViewById(R.id.lname);
        email=findViewById(R.id.email);
        dob=findViewById(R.id.txtdob);
        pass=findViewById(R.id.passw);
        male=findViewById(R.id.rb1);
        female=findViewById(R.id.rb2);
        other=findViewById(R.id.rb3);
        g=findViewById(R.id.gp);
        c=findViewById(R.id.chb);

        datetext=findViewById(R.id.date);

        pickdate=findViewById(R.id.datebutton);
        pickdate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Calendar calendar=Calendar.getInstance();
                day=calendar.get(Calendar.DAY_OF_MONTH);
```

```

month=calendar.get(calendar.MONTH);
year=calendar.get(Calendar.YEAR);
datepicker=new DatePickerDialog(MainActivity.this,new
DatePickerDialog.OnDateSetListener() {
    @Override
    public void onDateSet(DatePickerdatePicker, int day, int month, int year) {
        datetext.setText(day+"/"+(month+1)+"/"+year);
    }
},year,month,day);
datepicker.show();
}
});
}

    public void register(View view) {
val=validate();
    if(val)
    {
Toast.makeText(this, "Registered Successfull", Toast.LENGTH_SHORT).show();
    }
}
    private boolean validate() {

        if(emailt.length() == 0) {
emailt.setError("required");
        }
        else
        {
            String s_email=emailt.getText().toString();
            String checkmail="[a-zA-Z0-9._-]+@[a-z]+@[a-z]+.[a-z]+";
            if(!s_email.matches(checkmail)) {
emailt.setError("Invalid email");
                return false;
            }
        }

        if(pass.length()==0)
        {
pass.setError("Required");

```

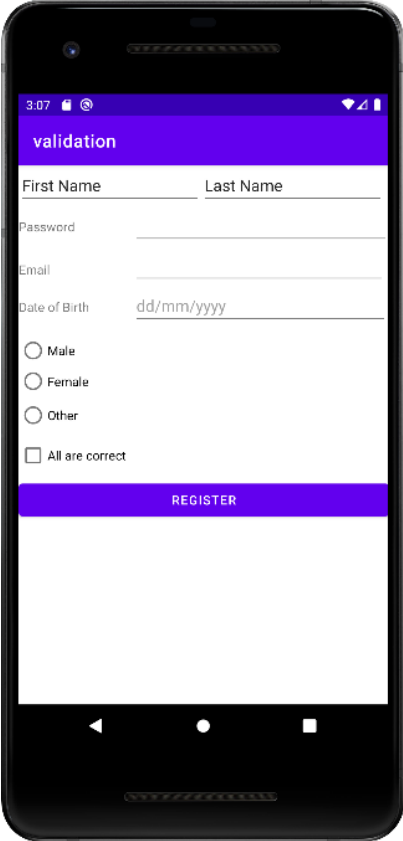
```
    }
    else if(pass.length()<8) {
pass.setError("password must be minimum 8 characters");
    }

    if(first.length()==0)
    {
first.setError("Required");
    return false;
    }
    if(second.length()==0)
    {
second.setError("Required");
    return false;
    }
    if(dob.length()==0)
    {
dob.setError("Required");
    return false;
    }
if(g.getCheckedRadioButtonId()== -1)
    {
other.setError("Select gender");
other.requestFocus();
    return false;
    }
    if(!c.isChecked())
    {
c.setError("Please agree");
c.requestFocus();
    return false;
    }

    return true;

}
}
```

OUTPUT



The image shows a black smartphone with a registration form on its screen. The form has a purple header with the word 'validation' in white. Below the header, there are input fields for 'First Name', 'Last Name', 'Password', 'Email', and 'Date of Birth' (with a placeholder 'dd/mm/yyyy'). There are three radio button options: 'Male', 'Female', and 'Other'. A checkbox labeled 'All are correct' is also present. At the bottom of the form is a purple button with the word 'REGISTER' in white. The smartphone's status bar at the top shows the time '3:07' and various icons. The bottom of the phone shows the standard Android navigation bar.

validation

First Name Last Name

Password

Email

Date of Birth dd/mm/yyyy

☐ Male

☐ Female

☐ Other

☐ All are correct

REGISTER

C01 PROGRAM