CO1 PROGRAM

**Program No:1**

**Aim:** Design a Login Form with username and password using

LinearLayout and toast valid credentials.

**Program**

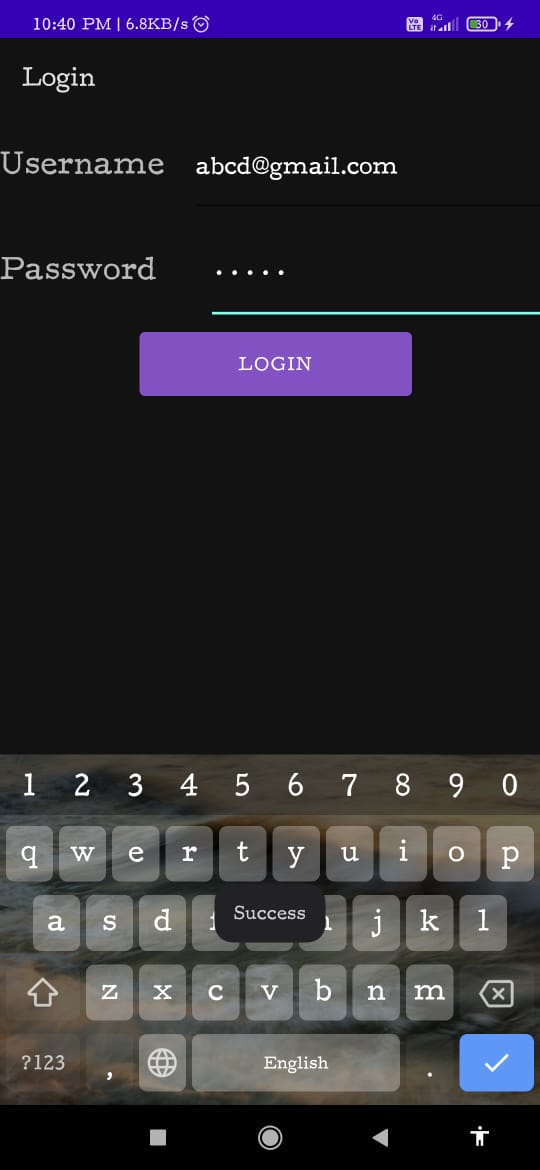
**XML:**

<?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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <LinearLayout  
 android:layout\_width="401dp"  
 android:layout\_height="220dp"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp"  
 tools:ignore="MissingConstraints">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="76dp"  
 android:orientation="horizontal">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="119dp"  
 android:layout\_height="61dp"  
 android:layout\_weight="1"  
 android:text="Username"  
 android:textSize="24sp" />  
  
 <EditText  
 android:id="@+id/usr"  
 android:layout\_width="243dp"  
 android:layout\_height="74dp"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:hint="abcd@gmail.com"  
 android:inputType="textPersonName" />  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="76dp"  
 android:orientation="horizontal">  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="Password"  
 android:textSize="24sp" />  
  
 <EditText  
 android:id="@+id/pss"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="match\_parent"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:hint="\*\*\*\*\*\*\*\*\*\*\*\*"  
 android:inputType="textPassword" />  
  
 </LinearLayout>  
  
 <Button  
 android:id="@+id/lg"  
 android:layout\_width="198dp"  
 android:layout\_height="58dp"  
 android:layout\_gravity="center"  
 android:foregroundGravity="center"  
 android:gravity="center"  
 android:onClick="check"  
 android:text="Login" />  
  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

**JAVA:**

package com.example.login;  
  
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;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 EditText user,pass;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 user=findViewById(R.id.*usr*);  
 pass=findViewById(R.id.*pss*);  
  
 }  
  
 public void check(View view) {  
 if(user.getText().toString().equals("abcd@gmail.com") && pass.getText().toString().equals("admin"))  
 {  
 Toast.*makeText*(getApplicationContext(),"Success",Toast.*LENGTH\_SHORT*).show();  
 }  
 else  
 {  
 Toast.*makeText*(getApplicationContext(),"Invalid!",Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
}

**OUTPUT:**



**Program No:2**

**Aim:** Write a program that demonstrates Activity Lifecycle.

**Program**

**XML:**

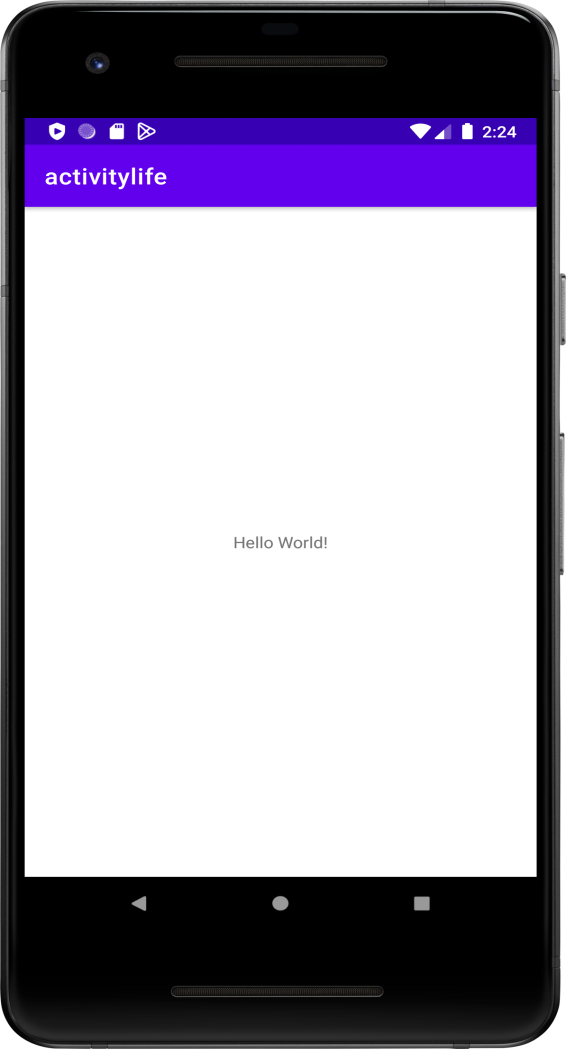
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 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:**

package com.example.activitylife;  
import android.os.Bundle;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;

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\_LONG*).show();  
  
 }  
 @Override  
 protected void onStart()  
 {  
 super.onStart();  
 Toast.*makeText*(this,"onStart",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onResume()  
 {  
 super.onResume();  
 Toast.*makeText*(this,"onResume",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onPause()  
 {  
 super.onPause();  
 Toast.*makeText*(this,"onPause",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onDestroy()  
 {  
 super.onDestroy();  
 Toast.*makeText*(this,"onDestroy",Toast.*LENGTH\_LONG*).show();  
 }  
  
}

**OUTPUT:**



**Program No:3**

**Aim:** Implementing basic arithmetic operations of a simple

calculator.

**PROGRAM**

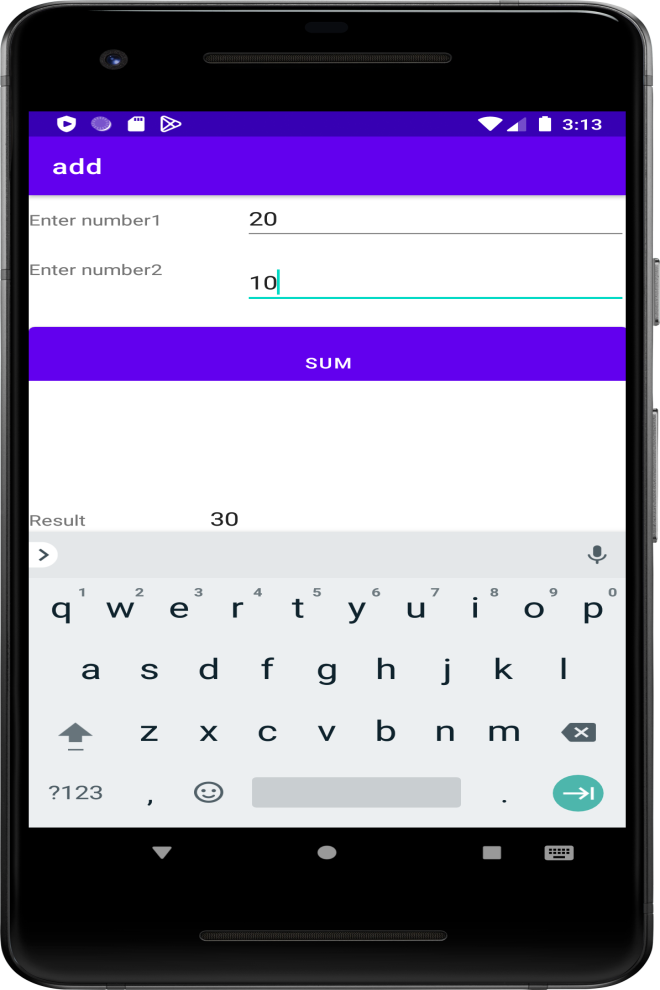
**XML:**

*<?*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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:rotationX="3"  
 tools:context=".MainActivity">  
  
 <TextView   
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text=""  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <LinearLayout  
 android:layout\_width="413dp"  
 android:layout\_height="728dp"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="61dp"  
 android:orientation="horizontal">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="74dp"  
 android:layout\_weight="1"  
 android:text="Enter number1" />  
  
 <EditText  
 android:id="@+id/n1"  
 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="59dp"  
 android:orientation="horizontal">  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="match\_parent"  
 android:layout\_weight="1"  
 android:text="Enter number2" />  
  
 <EditText  
 android:id="@+id/n2"  
 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="98dp"  
 android:orientation="horizontal">  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="1dp"  
 android:layout\_height="73dp"  
 android:layout\_weight="1"  
 android:text="Result" />  
  
 <EditText  
 android:id="@+id/r1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="match\_parent"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:text="" />  
 </LinearLayout>  
  
 <TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp" >  
  
 <Button  
 android:id="@+id/s1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="sum"  
 android:text="Add" />  
  
 <Button  
 android:id="@+id/sb1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="sub"  
 android:text="Sub" />  
  
 <Button  
 android:id="@+id/m1"  
 android:layout\_width="108dp"  
 android:layout\_height="wrap\_content"  
 android:onClick="div"  
 android:text="Div" />  
  
 <Button  
 android:id="@+id/m2"  
 android:layout\_width="122dp"  
 android:layout\_height="wrap\_content"  
 android:onClick="mul"  
 android:text="Mul" />  
 </TableRow>  
  
 </LinearLayout>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**JAVA:**

package com.example.add;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText np1,np2,re;  
 Button bt1,bt2,bt3,bt4;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 np1=findViewById(R.id.*n1*);  
 np2=findViewById(R.id.*n2*);  
 re=findViewById(R.id.*r1*);  
 bt1=findViewById(R.id.*s1*);  
 bt2=findViewById(R.id.*sb1*);  
 bt3=findViewById(R.id.*m1*);  
 bt4=findViewById(R.id.*m2*);  
  
 }  
  
  
 public void sum(View view) {  
 int n1=Integer.*parseInt*(np1.getText().toString());  
 int n2=Integer.*parseInt*(np2.getText().toString());  
 int s=n1+n2;  
 re.setText(s+"");  
 }  
  
 public void sub(View view) {  
 int n1=Integer.*parseInt*(np1.getText().toString());  
 int n2=Integer.*parseInt*(np2.getText().toString());  
 int s=n1-n2;  
 re.setText(s+"");  
 }  
  
 public void div(View view) {  
 int n1=Integer.*parseInt*(np1.getText().toString());  
 int n2=Integer.*parseInt*(np2.getText().toString());  
 float s=n1/n2;  
 re.setText(s+"");  
 }  
  
 public void mul(View view) {  
 int n1=Integer.*parseInt*(np1.getText().toString());  
 int n2=Integer.*parseInt*(np2.getText().toString());  
 int s=n1\*n2;  
 re.setText(s+"");  
 }  
}

**OUTPUT:**

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**Program No:4**

**Aim:** Implement validations on various UI controls.

**PROGRAM**

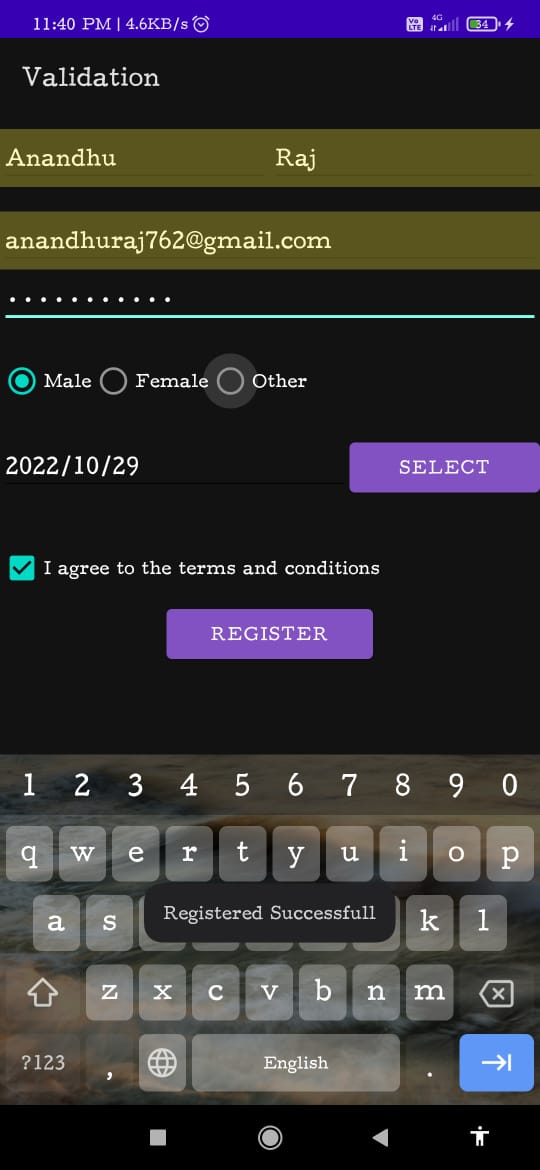
**XML:**

<?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"  
 tools:context=".MainActivity">  
  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp"  
 android:layout\_marginTop="10dp"  
  
 android:orientation="horizontal">  
  
 <EditText  
 android:id="@+id/first"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="First name" />  
  
 <EditText  
 android:id="@+id/last"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Last name" />  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical">  
  
 <EditText  
 android:id="@+id/email"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Email"  
 android:inputType="textEmailAddress" />  
  
 <EditText  
 android:id="@+id/password"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Password"  
 android:inputType="textPassword" />  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="15dp"  
 android:orientation="horizontal">  
  
 <RadioGroup  
 android:id="@+id/group"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
  
 <RadioButton  
 android:id="@+id/male"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Male" />  
  
 <RadioButton  
 android:id="@+id/female"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Female" />  
  
 <RadioButton  
 android:id="@+id/other"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="Other" />  
 </RadioGroup>  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="15dp"  
 android:orientation="horizontal">  
  
  
 <EditText  
 android:id="@+id/date"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:hint="date"  
 android:ems="10"  
 android:inputType="date" />  
  
 <Button  
 android:id="@+id/datebutton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="select" />  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="25dp"  
 android:orientation="vertical">  
  
 <CheckBox  
 android:id="@+id/checkbox"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="I agree to the terms and conditions" />  
 </LinearLayout>  
  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
  
 <Button  
 android:id="@+id/regbutton"  
 android:layout\_width="150dp"  
 android:layout\_gravity="center"  
 android:layout\_height="wrap\_content"  
 android:onClick="register"  
 android:text="register" />  
 </LinearLayout>  
  
 </LinearLayout>  
  
</LinearLayout>

**JAVA:**

package com.example.validation;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.app.DatePickerDialog;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.CheckBox;  
import android.widget.DatePicker;  
import android.widget.EditText;  
import android.widget.RadioButton;  
import android.widget.RadioGroup;  
import android.widget.Toast;  
  
import java.util.Calendar;  
  
public class MainActivity extends AppCompatActivity {  
 EditText first,last,dob,pass,email,datetext;  
 RadioButton male,female,other;  
 CheckBox c;  
 RadioGroup g;  
 Boolean val;  
 public DatePickerDialog datepicker;  
 Button pickdate;  
 int day,month,year;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 first=findViewById(R.id.*first*);  
 last=findViewById(R.id.*last*);  
 email=findViewById(R.id.*email*);  
 dob=findViewById(R.id.*date*);  
 pass=findViewById(R.id.*password*);  
 male=findViewById(R.id.*male*);  
 female=findViewById(R.id.*female*);  
 other=findViewById(R.id.*other*);  
 g=findViewById(R.id.*group*);  
 c=findViewById(R.id.*checkbox*);  
 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(DatePicker datePicker, 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(email.length() == 0) {  
 email.setError("required");  
 }  
 else  
 {  
 String s\_email=email.getText().toString();  
 String checkmail="[a-zA-Z0-9.\_-]+@[a-z].+[a-z]+";  
 if(!s\_email.matches(checkmail)) {  
 email.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(last.length()==0)  
 {  
 last.setError("Required");  
 return false;  
 }  
  
 if(first.length()==0)  
 {  
 first.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:**

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