PROGRAM 4 (CO1)

AIM: Implement validations on various UI controls

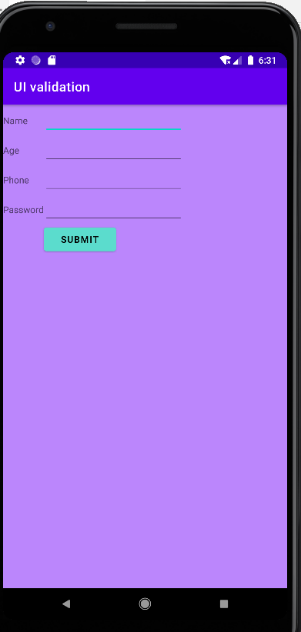
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/Phone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/purple\_200"  
 tools:context=".MainActivity"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp">  
  
 <TextView  
 android:id="@+id/Name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="0"  
 android:text="Name"/>  
  
 <EditText  
 android:id="@+id/name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/Age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="0"  
 android:text="Age" />  
  
 <EditText  
 android:id="@+id/age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="0"  
 android:text="Phone" />  
  
 <EditText  
 android:id="@+id/phone"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="phone" />  
  
 <TextView  
 android:id="@+id/Password"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="0"  
 android:text="Password" />  
  
 <EditText  
 android:id="@+id/pass"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPassword" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="110dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="4"  
 android:layout\_column="1"  
 android:backgroundTint="#5BDCCD"  
 android:text="Submit"  
 android:textColor="@color/black" />  
  
</GridLayout>

JAVA

package com.example.uivalidation;  
  
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 java.util.jar.Attributes;  
import java.util.regex.Pattern;  
  
public class MainActivity extends AppCompatActivity {  
 EditText username;  
 EditText age;  
 EditText phone;  
 EditText pass;  
 Button b1;  
 Pattern USERNAME\_PATTERN=Pattern.*compile*("^[A-Za-z]\\w{5,30}$"); *//Alphabets 6-30 letters* Pattern PASSWORD\_PATTERN =Pattern.*compile*("^" +  
 "(?=.\*[@#$%^&+=])" + *// at least 1 special character* "(?=\\S+$)" + *// no white spaces* ".{4,}" + *// at least 4 characters* "$");  
 Pattern AGE\_PATTERN= Pattern.*compile*("^" +  
  
 "(?=\\S+$)" + *// no white spaces* "[0-9]{1,2}" + *// 2 numbers* "$");  
 Pattern PHONE\_PATTERN=Pattern.*compile*("^(0|91)?[7-9][0-9]{9}$"); *//Begins with 0 or 91,then 7 or 8 or 9,then contains 9 digits* @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 username=findViewById(R.id.*name*);  
 age=findViewById(R.id.*age*);  
 phone=findViewById(R.id.*phone*);  
 pass=findViewById(R.id.*pass*);  
 b1=findViewById(R.id.*button*);  
  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String inpName=username.getText().toString();  
 String inpAge=age.getText().toString();  
 String inpPh=phone.getText().toString();  
 String inpPass=pass.getText().toString();  
  
  
 if(inpName.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Name Field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpAge.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Age field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpPh.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Phone field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpPass.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Pass field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if (!USERNAME\_PATTERN.matcher(inpName).matches()){  
 username.setError("Enter alphabets [6-30 characters]");  
 }  
 if (!AGE\_PATTERN.matcher(inpAge).matches()) {  
 age.setError("Incorrect Age");  
 }  
 if (!PHONE\_PATTERN.matcher(inpPh).matches()){  
 phone.setError("Contains only 10 digits");  
 }  
 if (!PASSWORD\_PATTERN.matcher(inpPass).matches()){  
 pass.setError("Password is too weak");  
 }  
 else{  
 Toast.*makeText*(MainActivity.this, "Success", Toast.*LENGTH\_SHORT*).show();  
  
 }  
 }  
 });  
  
 }  
}

OUTPUT



RESULT : Program to implement validations on various UI controls successfully executed and output verified