

PROGRAM 4

AIM : Implement validations on various UI controls.

PROGRAM CODE :

JAVA

```
package com.example.validation;

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;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Button button;
    TextView name,number,password,mail,addr;
    EditText ename,enumber,epassword,email,address;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        button = findViewById(R.id.button);

        name = findViewById(R.id.textView1);
        number = findViewById(R.id.textView2);
        mail = findViewById(R.id.textView3);
        password = findViewById(R.id.textView4);
        addr=findViewById(R.id.adr);

        ename= findViewById(R.id.editText);
        enumber= findViewById(R.id.editText2);
```

```

email= findViewById(R.id.editText3);
epassword= findViewById(R.id.editText4);
address= findViewById(R.id.addr);

button.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        login();
    }
});

}

public void login() {
    if (ename.getText().toString().length() == 0) {
        ename.requestFocus();
        ename.setError("Name is required");
        return;
    }
    String namePattern="^[0-9!@#$$%^&*]+$";
    if(ename.getText().toString().matches(namePattern))
    { ename.requestFocus();
        ename.setError("Enter valid name");
        return;

    }
    String fPattern="^[A-Za-z!@#$$%^&*]+[0-9!@#$$%^&*]+[A-Za-z!@#$$%^&*]+$";
    if(ename.getText().toString().matches(fPattern))
    { ename.requestFocus();
        ename.setError("Enter valid name");
        return;

    }
    String namPattern="^[A-Za-z!@#$$%^&*]+[0-9!@#$$%^&*]+$";
    if(ename.getText().toString().matches(namPattern))
    { ename.requestFocus();
        ename.setError("Enter valid name");
        return;

    }
    String naPattern="^[0-9!@#$$%^&*]+[A-Za-z!@#$$%^&*]++$";

```

```

if(ename.getText().toString().matches(naPattern))
{
    ename.requestFocus();
    ename.setError("Enter valid name");
    return;
}

if (address.getText().toString().length() == 0) {
    address.requestFocus();
    address.setError("Address is required");
    return;
}

String noPattern="^[A-Za-z!@#$$%^&*]+$";
if(enumerator.getText().toString().matches(noPattern))
{
    enumerator.requestFocus();
    enumerator.setError("Enter valid number");
    return;
}

String numPattern="^[A-Za-z]+[0-9]+[!@#$$%^&*]+$";
if(enumerator.getText().toString().matches(numPattern))
{
    enumerator.requestFocus();
    enumerator.setError("Enter valid number");
    return;
}

String nuPattern="^[A-Za-z]+[0-9]+$";
if(enumerator.getText().toString().matches(nuPattern))
{
    enumerator.requestFocus();
    enumerator.setError("Enter valid number");
    return;
}

String nPattern="^[0-9]+[A-Za-z]+$";
if(enumerator.getText().toString().matches(nPattern))
{
    enumerator.requestFocus();
    enumerator.setError("Enter valid number");
    return;
}

String numberPattern="^[0-9]+[!@#$$%^&*]+$";

```

```

if(enumber.getText().toString().matches(numberPattern))
{
    enumber.requestFocus();
    enumber.setError("Enter valid number");
    return;
}
if (enumber.getText().toString().length() == 0) {
    enumber.requestFocus();
    enumber.setError("Number is required");
    return;
}
if (enumber.getText().toString().length() < 10) {
    enumber.requestFocus();
    enumber.setError("Enter 10 digit number");
    return;
}
if (enumber.getText().toString().length() >10) {
    enumber.requestFocus();
    enumber.setError("Enter 10 digit number");
    return;
}

```

```

if (email.getText().toString().length() == 0) {
    Toast.makeText(getApplicationContext(), "Invalid Email Address",
Toast.LENGTH_SHORT).show();
    email.requestFocus();
    email.setError("email is required");
    return;
}
String emailpattern="^[a-zA-Z0-9._-]+@[a-z]+.[a-z]+$";
if(email.getText().toString().matches(emailpattern)) {

}
else{
    email.requestFocus();
    email.setError("Enter valid email");
    return;
}
if (epassword.getText().toString().length() == 0)

```

```

    {
        epassword.requestFocus();
        epassword.setError("Enter valid password");
        return;
    }

    if (epassword.getText().toString().length() < 8) {
        epassword.requestFocus();
        epassword.setError("Enter minimum 8 digit password");
        return;
    }
}
}

```

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:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="PASSWORD"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.145"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.519" />

<TextView
    android:id="@+id/textView1"

```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="NAME"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.167"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.14" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="MOB NO"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.167"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.327" />
```

<TextView

```
android:id="@+id/textView3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="EMAIL"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.194"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.431" />
```

<EditText

```
android:id="@+id/editText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
```

```
android:hint="Name"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.757"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.125" />
```

<EditText

```
android:id="@+id/editText2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Number"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.757"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.319" />
```

<EditText

```
android:id="@+id/editText3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textEmailAddress"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.757"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.425" />
```

<EditText

```
android:id="@+id/editText4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
```

```
android:inputType="textPassword"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.757"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.523" />
```

<Button

```
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:background="#00BCD4"
android:text="OK"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.464"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.67" />
```

<EditText

```
android:id="@+id/addr"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
android:hint="Address"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.757"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.221" />
```

<TextView

```
android:id="@+id/adr"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Address"
```



```
app:layout_constraintBottom_toBottomOf="parent"  
app:layout_constraintEnd_toEndOf="parent"  
app:layout_constraintHorizontal_bias="0.17"  
app:layout_constraintStart_toStartOf="parent"  
app:layout_constraintTop_toTopOf="parent"  
app:layout_constraintVertical_bias="0.233" />
```

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

RESULT : Program has been successfully executed and output is obtained.