Experiment No.: 4

Aim

Implement validations on various UI controls

CO1

Design and develop user interfaces for mobile apps using basic building blocks, UI components

and application structure using Emulator

Procedure

activity_main.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:padding="50sp"
    android:background="#B287AFCA"
    android:orientation="vertical"
    android:gravity="top|center"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="LOGIN"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="25sp"
```

```
    android:textStyle="bold"

    android:layout_marginTop="150dp"/>

<EditText

    android:id="@+id/et_username"

    android:layout_marginLeft="15dp"

    android:layout_marginTop="25dp"

    android:layout_marginBottom="20dp"

    android:layout_marginRight="15dp"

    android:layout_centerVertical="true"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:ellipsize="start"

    android:gravity="center"

    android:hint="Email"

    android:inputType="text"

    android:thickness="0dp"

    android:shape="rectangle"

    android:width="3dp"

    android:color="#4799E8"

    android:startColor="#C8C8C8"

    android:endColor="#FFFFFF"

    android:type="linear"

    android:angle="270"/>

<EditText

    android:id="@+id/et_password"

    android:layout_marginLeft="15dp"

    android:layout_marginTop="15dp"

    android:layout_marginBottom="20dp"

    android:layout_marginRight="15dp"
```

```
        android:layout_centerVertical="true"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:ellipsize="start"

        android:gravity="center"

        android:hint="password"

        android:inputType="textPassword"

        android:thickness="0dp"

        android:shape="rectangle"

        android:width="3dp"

        android:color="#4799E8"

        android:startColor="#C8C8C8"

        android:endColor="#FFFFFF"

        android:type="linear"

        android:angle="270"/>

    <Button

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/btn_login"

        android:text="Sign in"

        android:textSize="15sp"

        android:textAlignment="center"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.validation;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.util.Log;
```

```java
import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    EditText un = (EditText) findViewById(R.id.et_username);

    EditText ps = (EditText) findViewById(R.id.et_password);

    Button btn = (Button) findViewById(R.id.btn_login);

    btn.setOnClickListener(view -> {

      String uname = un.getText().toString();

      String pswd = ps.getText().toString();

      String specialCharRegex= ".*[@#!$%^&+=].*";

      String UpperCaseRegex= ".*[A-Z].*";

      String NumberRegex= ".*[0-9].*";

      String emailPattern = "[a-zA-Z0-9._-]+@[a-z]+\\.+[a-z]+";

      if (uname.length()==0)

      {

        un.setError("user name not to be null");

      }

      else if(!uname.matches(emailPattern)){

        un.setError(" provided email is invalid");

      }

      else if(pswd.length() == 0) {

        ps.setError("password not to be null");

      }

      else if((!pswd.matches(specialCharRegex)) && (!pswd.matches(UpperCaseRegex))&&
(!pswd.matches(NumberRegex))){
```
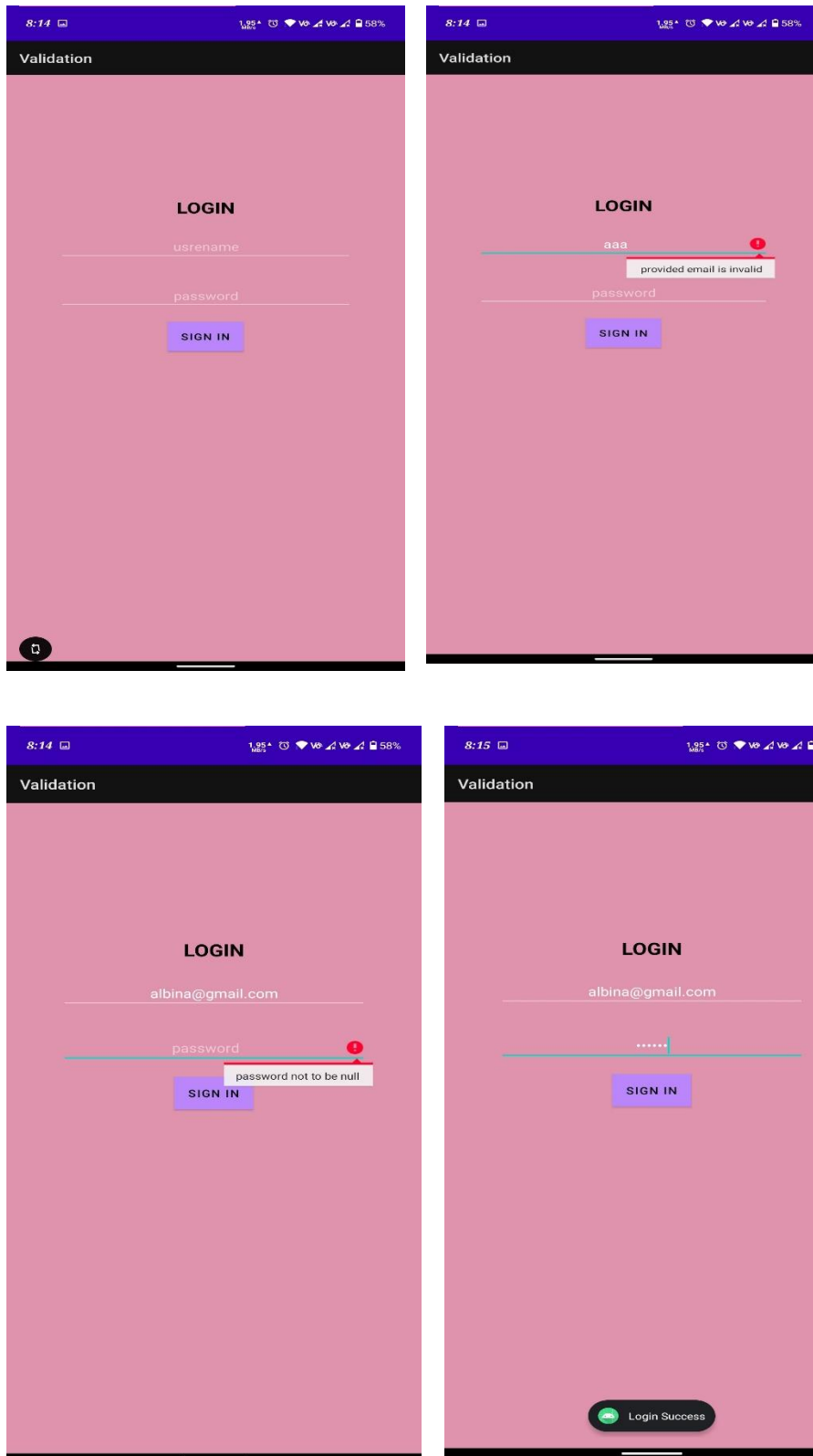
```
        ps.setError("include Special character and uppercase");

    }

    else

    {

        if (uname.equals("ajcemca@gmail.com") && pswd.equals("Ajcemca@2022")) {

            Toast.makeText(this, "Login Success", Toast.LENGTH_SHORT).show();


        } else if (uname != ("albina@gmail.com") && pswd.equals("albina@2022")) {

            Toast.makeText(this, "Invalid username", Toast.LENGTH_SHORT).show();

        } else if (uname.equals("albina@gmail.com") && pswd != ("albina@2022")) {

            Toast.makeText(this, "Invalid password", Toast.LENGTH_SHORT).show();

        } else {

            Toast.makeText(this, "Invalid username and password",
Toast.LENGTH_SHORT).show();

        }

    }

});

    }

}
```

Output Screenshot

Result

The program was executed and the result was successfully obtained. Thus CO1 was obtained.