**PROGRAM 4 - VALIDATION ON UI CONTROLS**

**activity\_main.xml**

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp">  
 <EditText  
 android:id="@+id/editTextEmail"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Email"  
 android:inputType="textEmailAddress"  
 android:minHeight="48dp" />  
 <EditText  
 android:id="@+id/editTextPassword"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Password"  
 android:inputType="textPassword"  
 android:minHeight="48dp" />  
 <Button  
 android:id="@+id/buttonSubmit"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit" />  
 <TextView  
 android:id="@+id/textViewError"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textColor="@color/my\_red"  
 android:textSize="16sp" />  
</LinearLayout>

**MainActivity.java**

package com.example.validationonuicontrols;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.util.Patterns;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText emailEditText;  
 private EditText passwordEditText;  
 private Button submitButton;  
 private TextView errorTextView;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 emailEditText = findViewById(R.id.*editTextEmail*);  
 passwordEditText = findViewById(R.id.*editTextPassword*);  
 submitButton = findViewById(R.id.*buttonSubmit*);  
 errorTextView = findViewById(R.id.*textViewError*);  
  
 submitButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 validateInputs();  
 }  
 });  
 }  
  
 private void validateInputs() {  
 String email = emailEditText.getText().toString().trim();  
 String password = passwordEditText.getText().toString().trim();  
  
 // Reset error message  
 errorTextView.setText("");  
  
 if (TextUtils.*isEmpty*(email)) {  
 errorTextView.setText("Email cannot be empty");  
 return;  
 }  
  
 if (!Patterns.*EMAIL\_ADDRESS*.matcher(email).matches()) {  
 errorTextView.setText("Invalid email address");  
 return;  
 }  
  
 if (TextUtils.*isEmpty*(password)) {  
 errorTextView.setText("Password cannot be empty");  
 return;  
 }  
  
 if (password.length() < 6) {  
 errorTextView.setText("Password must be at least 6 characters");  
 return;  
 }  
  
 Toast.*makeText*(MainActivity.this, "Validation Successful", Toast.*LENGTH\_SHORT*).show();  
 }  
}

**colors.xml**

<resources>

<color name="my\_red">#FF0000</color>

</resources>

**OUTPUT**

