**Lab 3**

Working with Layouts

i) Develop an android application "Know your string" which provides an opening screen that introduces the problem and allows the user to provide the string as an input. It should also allow the user to

choose among the various string methods for example (i) Length of

the String (ii) Trimming a string (iii) Converting lowercase string to upper case (iv) Converting uppercase string to lower case.

Depending on the user's choice the answer is to be displayed. The application should follow the following layout style

(i) Linear Layout

(ii) Relative Layout

**MainActivity.java Code:**

package com.example.lab3;  
  
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 java.util.Locale;  
  
public class MainActivity extends AppCompatActivity {  
  
 String val;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
  
 Button length =(Button) findViewById(R.id.*strlength*);  
 Button Trim =(Button) findViewById(R.id.*strTrim*);  
 Button Upper =(Button) findViewById(R.id.*upper*);  
 Button Lower =(Button) findViewById(R.id.*lower*);  
  
  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 }  
 public void lengthfn(View view){  
 TextView ans =(TextView) findViewById(R.id.*Answer*);  
 EditText strg =(EditText) findViewById(R.id.*strn*);  
 val = strg.getText().toString();  
 int ln = val.length();  
 ans.setText(ln+" ");  
 }  
 public void trimfn(View view){  
 TextView ans =(TextView) findViewById(R.id.*Answer*);  
 EditText strg =(EditText) findViewById(R.id.*strn*);  
 val = strg.getText().toString().trim();  
 ans.setText(val);  
 }  
 public void upperfn(View view){  
 TextView ans =(TextView) findViewById(R.id.*Answer*);  
 EditText strg =(EditText) findViewById(R.id.*strn*);  
 val = strg.getText().toString().toUpperCase();  
 ans.setText(val);  
 }  
 public void lowerfn(View view){  
 TextView ans =(TextView) findViewById(R.id.*Answer*);  
 EditText strg =(EditText) findViewById(R.id.*strn*);  
 val = strg.getText().toString().toLowerCase();  
 ans.setText(val);  
 }  
}

**Activitymain.xml Code:**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:fontFamily="sans-serif-condensed"  
 android:text="KNOW YOUR STRING"  
 android:textSize="34sp"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="30dp"/>  
  
 <Button  
 android:id="@+id/strlength"  
 android:layout\_width="110dp"  
 android:layout\_height="45dp"  
 android:text="Length"  
 android:textSize="10dp"  
 android:layout\_below="@id/upper"  
 android:layout\_toRightOf="@id/lower"  
 android:layout\_marginLeft="80dp"  
 android:layout\_marginTop="15dp"  
 android:onClick="lengthfn"/>  
  
 <Button  
 android:id="@+id/strTrim"  
 android:layout\_width="110dp"  
 android:layout\_height="45dp"  
 android:text="Trim"  
 android:textSize="10dp"  
 android:layout\_below="@id/Answer"  
 android:layout\_marginTop="5dp"  
 android:layout\_marginLeft="50dp"  
 android:onClick="trimfn"/>  
  
 <Button  
 android:id="@+id/upper"  
 android:layout\_width="110dp"  
 android:layout\_height="45dp"  
 android:text="UpperCase"  
 android:textSize="10dp"  
 android:layout\_below="@id/Answer"  
 android:layout\_toRightOf="@id/strTrim"  
 android:layout\_marginLeft="80dp"  
 android:onClick="upperfn"/>  
  
 <Button  
 android:id="@+id/lower"  
 android:layout\_width="110dp"  
 android:layout\_height="45dp"  
 android:layout\_below="@id/strTrim"  
 android:layout\_marginLeft="50dp"  
 android:layout\_marginTop="15dp"  
 android:onClick="lowerfn"  
 android:text="LowerCase"  
 android:textSize="10dp" />  
  
 <EditText  
 android:id="@+id/strn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="80dp"  
 android:ems="10"  
 android:hint="Enter The String"  
 android:inputType="text"  
 android:layout\_below="@id/textView"  
 android:layout\_centerHorizontal="true"/>  
  
 <TextView  
 android:id="@+id/Answer"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="116dp"  
 android:text="Answer"  
 android:layout\_centerHorizontal="true"  
 android:layout\_below="@id/strn"  
 android:layout\_marginTop="30dp"/>  
  
</RelativeLayout>

Graphical user interface, diagram, application

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