

Ex2 - Application to simulate keyboard and calculator

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Calculator:

MainActivity.java

```
package com.example.calculator;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

import javax.xml.transform.Result;

public class MainActivity extends AppCompatActivity {
    Button
    button0,button1,button2,button3,button4,button5,button6,button7,button8,button9,button10,buttonC,buttonEqual,buttonAdd,buttonSub,buttonMul,buttonDiv;
    EditText ResultEditText;

    float mValueOne,mValueTwo;

    boolean Addition,Subtract,Multiply,Division;

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

        button0 = (Button) findViewById(R.id.button0);
        button1 = (Button) findViewById(R.id.button1);
        button2 = (Button) findViewById(R.id.button2);
        button3 = (Button) findViewById(R.id.button3);
        button4 = (Button) findViewById(R.id.button4);
        button5 = (Button) findViewById(R.id.button5);
        button6 = (Button) findViewById(R.id.button6);
        button7 = (Button) findViewById(R.id.button7);
        button8 = (Button) findViewById(R.id.button8);
        button9 = (Button) findViewById(R.id.button9);
        button10 = (Button) findViewById(R.id.button10);
        buttonAdd = (Button) findViewById(R.id.buttonadd);
        buttonSub = (Button) findViewById(R.id.buttonsub);
        buttonMul = (Button) findViewById(R.id.buttonmul);
        buttonDiv = (Button) findViewById(R.id.buttondiv);
        buttonC = (Button) findViewById(R.id.buttonC);
        buttonEqual = (Button) findViewById(R.id.buttoneq1);
        ResultEditText = (EditText) findViewById(R.id.edt1);

        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v){
```

```
        ResultEditText.setText (ResultEditText.getText () + "1");
    }
});

button2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "2");
    }
});

button3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "3");
    }
});

button4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "4");
    }
});

button5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "5");
    }
});

button6.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "6");
    }
});

button7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "7");
    }
});

button8.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "8");
    }
});

button9.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        ResultEditText.setText (ResultEditText.getText () + "9");
    }
});

button0.setOnClickListener(new View.OnClickListener() {
```

```

        @Override
        public void onClick(View v){
            ResultEditText.setText(ResultEditText.getText() + "0");
        }
    });

    buttonAdd.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            if(ResultEditText == null){
                ResultEditText.setText("");
            }
            else{
                mValueOne = Float.parseFloat(ResultEditText.getText() +
""");
                Addition = true;
                ResultEditText.setText(null);
            }
        }
    });

    buttonSub.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            mValueOne = Float.parseFloat(ResultEditText.getText() +
""");
            Subtract = true;
            ResultEditText.setText(null);
        }
    });

    buttonMul.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            mValueOne = Float.parseFloat(ResultEditText.getText() +
""");
            Multiply = true;
            ResultEditText.setText(null);
        }
    });

    buttonDiv.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            mValueOne = Float.parseFloat(ResultEditText.getText() +
""");
            Division = true;
            ResultEditText.setText(null);
        }
    });

    buttonEqual.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            mValueTwo = Float.parseFloat(ResultEditText.getText()+"");

            if(Addition == true){
                ResultEditText.setText(mValueOne + mValueTwo + "");
                Addition = false;
            }
            if(Subtract == true){

```

```

        ResultEditText.setText(mValueOne - mValueTwo + "");
        Subtract = false;
    }
    if(Multiply == true){
        ResultEditText.setText(mValueOne * mValueTwo + "");
        Multiply = false;
    }
    if(Division == true){
        ResultEditText.setText(mValueOne / mValueTwo + "");
        Division = false;
    }
    }
    });

    buttonC.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            ResultEditText.setText("");
        }
    });

    button10.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            ResultEditText.setText(ResultEditText.getText()+".");
        }
    });
}
}

```

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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">

    <android.support.v7.widget.GridLayout
        android:layout_width="394dp"
        android:layout_height="255dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="1"
            app:layout_column="0"
            app:layout_row="0" />

        <Button
            android:id="@+id/button3"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="3"
        app:layout_column="2"
        app:layout_row="0" />

<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4"
    app:layout_column="0"
    app:layout_row="1" />

<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="5"
    app:layout_column="1"
    app:layout_row="1" />

<Button
    android:id="@+id/button6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="6"
    app:layout_column="2"
    app:layout_row="1" />

<Button
    android:id="@+id/button7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="7"
    app:layout_column="0"
    app:layout_row="2" />

<Button
    android:id="@+id/button8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="8"
    app:layout_column="1"
    app:layout_row="2" />

<Button
    android:id="@+id/button9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="9"
    app:layout_column="2"
    app:layout_row="2" />

<Button
    android:id="@+id/buttonadd"
    android:layout_width="111dp"
    android:layout_height="wrap_content"
    android:text="+"
    app:layout_column="4"
    app:layout_row="0" />

```

```
<Button
    android:id="@+id/buttonsub"
    android:layout_width="112dp"
    android:layout_height="wrap_content"
    android:text="-"
    app:layout_column="4"
    app:layout_row="1" />
```

```
<Button
    android:id="@+id/buttonmul"
    android:layout_width="113dp"
    android:layout_height="wrap_content"
    android:text="*"
    app:layout_column="4"
    app:layout_row="2" />
```

```
<Button
    android:id="@+id/buttondiv"
    android:layout_width="114dp"
    android:layout_height="wrap_content"
    android:text="/"
    app:layout_column="4"
    app:layout_row="3" />
```

```
<Button
    android:id="@+id/button10"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="."
    app:layout_column="0"
    app:layout_row="3" />
```

```
<Button
    android:id="@+id/button0"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="0"
    app:layout_column="1"
    app:layout_row="3" />
```

```
<Button
    android:id="@+id/buttonC"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="C"
    app:layout_column="2"
    app:layout_row="3" />
```

```
<Button
    android:id="@+id/buttoneql"
    android:layout_width="109dp"
    android:layout_height="66dp"
    android:text="="
    app:layout_column="4"
    app:layout_row="4" />
```

```
<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```

        android:text="2"
        app:layout_column="1"
        app:layout_row="0" />

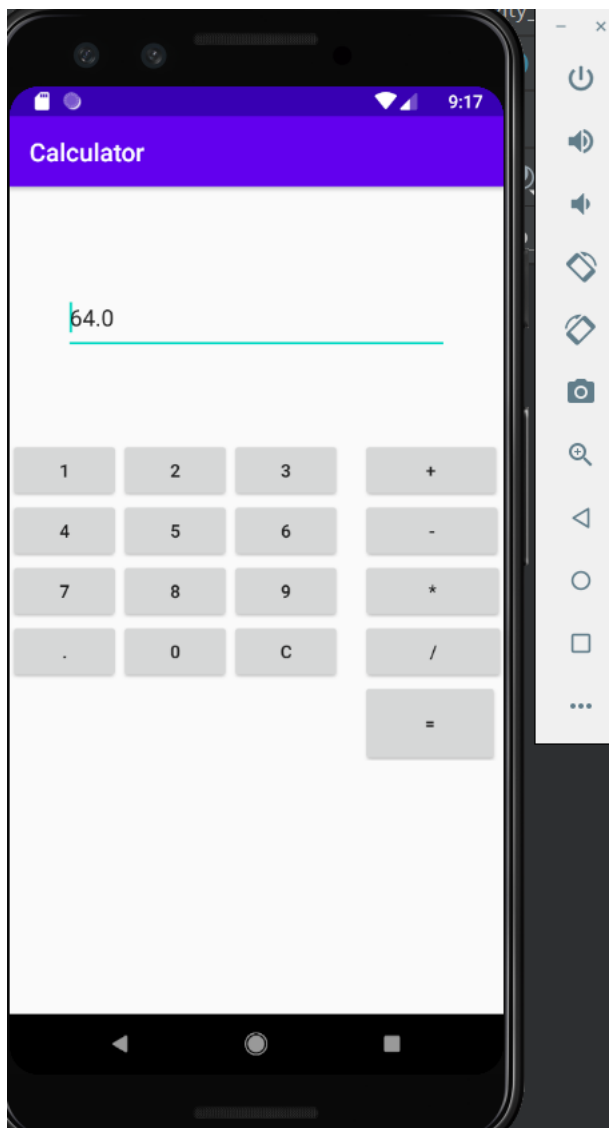
</android.support.v7.widget.GridLayout>

<EditText
    android:id="@+id/edt1"
    android:layout_width="305dp"
    android:layout_height="56dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.127" />

</android.support.constraint.ConstraintLayout>

```

OUTPUT :



2) Keyboard

MainActivity.java

```
package com.example.ex2_keyboard;
import android.net.sip.SipSession;
import android.os.Bundle;

import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.TableLayout;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity{
    int cap_count = 0;
    int num_count = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        AppCompatActivity.setDefaultNightMode(AppCompatActivity.MODE_NIGHT_NO);
        TableLayout table= findViewById(R.id.table);
        table.setVisibility(View.INVISIBLE);
        TextView type_here= findViewById(R.id.type_here);
        type_here.setShowSoftInputOnFocus(false);
        type_here.setCursorVisible(false);
        type_here.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                table.setVisibility(View.VISIBLE);
            }
        });
        type_here.setOnFocusChangeListener(new View.OnFocusChangeListener() {
            {
                @Override
                public void onFocusChange(View v, boolean hasFocus) {
                    if (hasFocus)
                        table.setVisibility(View.VISIBLE);
                    else
                        table.setVisibility(View.INVISIBLE);
                }
            }
        });

        Button q= findViewById(R.id.q);
        q.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String txt=type_here.getText().toString();
                txt+=q.getText().toString();
                type_here.setText(txt);
            }
        });

        Button w= findViewById(R.id.w);
        w.setOnClickListener(new View.OnClickListener() {
```



```

        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=w.getText().toString();
            type_here.setText(txt);
        }
    });

    Button e= findViewById(R.id.e);
    e.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=e.getText().toString();
            type_here.setText(txt);
        }
    });

    Button r= findViewById(R.id.r);
    r.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=r.getText().toString();
            type_here.setText(txt);
        }
    });

    Button t= findViewById(R.id.t);
    t.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=t.getText().toString();
            type_here.setText(txt);
        }
    });

    Button y= findViewById(R.id.y);
    y.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=y.getText().toString();
            type_here.setText(txt);
        }
    });

    Button u= findViewById(R.id.u);
    u.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=u.getText().toString();
            type_here.setText(txt);
        }
    });

    Button i= findViewById(R.id.i);
    i.setOnClickListener(new View.OnClickListener() {
        @Override

```

```

        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=i.getText().toString();
            type_here.setText(txt);
        }
    });

    Button o= findViewById(R.id.o);
    o.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=o.getText().toString();
            type_here.setText(txt);
        }
    });

    Button p= findViewById(R.id.p);
    p.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=p.getText().toString();
            type_here.setText(txt);
        }
    });

    Button a= findViewById(R.id.a);
    a.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=a.getText().toString();
            type_here.setText(txt);
        }
    });

    Button s= findViewById(R.id.s);
    s.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=s.getText().toString();
            type_here.setText(txt);
        }
    });

    Button d= findViewById(R.id.d);
    d.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=d.getText().toString();
            type_here.setText(txt);
        }
    });

    Button f= findViewById(R.id.f);
    f.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

```

```

        String txt=type_here.getText().toString();
        txt+=f.getText().toString();
        type_here.setText(txt);
    }
});

Button g= findViewById(R.id.g);
g.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=g.getText().toString();
        type_here.setText(txt);
    }
});

Button h= findViewById(R.id.h);
h.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=h.getText().toString();
        type_here.setText(txt);
    }
});

Button j= findViewById(R.id.j);
j.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=j.getText().toString();
        type_here.setText(txt);
    }
});

Button k= findViewById(R.id.k);
k.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=k.getText().toString();
        type_here.setText(txt);
    }
});

Button l= findViewById(R.id.l);
l.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=l.getText().toString();
        type_here.setText(txt);
    }
});

Button z= findViewById(R.id.z);
z.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();

```

```

        txt+=z.getText().toString();
        type_here.setText(txt);
    }
});

Button x= findViewById(R.id.x);
x.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=x.getText().toString();
        type_here.setText(txt);
    }
});

Button c= findViewById(R.id.c);
c.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=c.getText().toString();
        type_here.setText(txt);
    }
});

Button v= findViewById(R.id.v);
v.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View w) {
        String txt=type_here.getText().toString();
        txt+=v.getText().toString();
        type_here.setText(txt);
    }
});

Button b= findViewById(R.id.b);
b.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=b.getText().toString();
        type_here.setText(txt);
    }
});

Button n= findViewById(R.id.n);
n.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=n.getText().toString();
        type_here.setText(txt);
    }
});

Button m= findViewById(R.id.m);
m.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=m.getText().toString();
    }
});

```

```

        type_here.setText(txt);
    }
});

Button space= findViewById(R.id.space);
space.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=" ";
        type_here.setText(txt);
    }
});

Button enter= findViewById(R.id.enter);
enter.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+="\n";
        type_here.setText(txt);
    }
});

Button comma= findViewById(R.id.comma);
comma.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=",";
        type_here.setText(txt);
    }
});

Button period= findViewById(R.id.period);
period.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=".";
        type_here.setText(txt);
    }
});

Button clr= findViewById(R.id.clr);
clr.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if(!TextUtils.isEmpty(type_here.getText())) {
            String txt = type_here.getText().toString();
            txt = txt.substring(0, txt.length() - 1);
            type_here.setText(txt);
        }
    }
});

Button cap= findViewById(R.id.cap);
cap.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View vi) {
        cap_count+=1;
    }
});

```

```

        if (cap_count%2==0) {
            q.setText("q");
            w.setText("w");
            e.setText("e");
            r.setText("r");
            t.setText("t");
            y.setText("y");
            u.setText("u");
            i.setText("i");
            o.setText("o");
            p.setText("p");
            a.setText("a");
            s.setText("s");
            d.setText("d");
            f.setText("f");
            g.setText("g");
            h.setText("h");
            j.setText("j");
            k.setText("k");
            l.setText("l");
            z.setText("z");
            x.setText("x");
            c.setText("c");
            v.setText("v");
            b.setText("b");
            n.setText("n");
            m.setText("m");

        }
        else{
            q.setText("Q");
            w.setText("W");
            e.setText("E");
            r.setText("R");
            t.setText("T");
            y.setText("Y");
            u.setText("U");
            i.setText("I");
            o.setText("O");
            p.setText("P");
            a.setText("A");
            s.setText("S");
            d.setText("D");
            f.setText("F");
            g.setText("G");
            h.setText("H");
            j.setText("J");
            k.setText("K");
            l.setText("L");
            z.setText("Z");
            x.setText("X");
            c.setText("C");
            v.setText("V");
            b.setText("B");
            n.setText("N");
            m.setText("M");

        }
    }
}

});

```

```

Button num= findViewById(R.id.num);

```

```
num.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View vi) {
        num_count+=1;
        if (num_count%2==0) {
            q.setText("q");
            w.setText("w");
            e.setText("e");
            r.setText("r");
            t.setText("t");
            y.setText("y");
            u.setText("u");
            i.setText("i");
            o.setText("o");
            p.setText("p");
            a.setText("a");
            s.setText("s");
            d.setText("d");
            f.setText("f");
            g.setText("g");
            h.setText("h");
            j.setText("j");
            k.setText("k");
            l.setText("l");
            z.setText("z");
            x.setText("x");
            c.setText("c");
            v.setText("v");
            b.setText("b");
            n.setText("n");
            m.setText("m");

        }
        else{
            q.setText("1");
            w.setText("2");
            e.setText("3");
            r.setText("4");
            t.setText("5");
            y.setText("6");
            u.setText("7");
            i.setText("8");
            o.setText("9");
            p.setText("0");
            a.setText("@");
            s.setText("#");
            d.setText("?");
            f.setText("_");
            g.setText("&");
            h.setText("-");
            j.setText("+");
            k.setText("(");
            l.setText(")");
            z.setText("/");
            x.setText("*");
            c.setText("\\");
            v.setText("'");
            b.setText(":");
            n.setText(";");
            m.setText("!");
        }
    }
});
```

```

    }
    });
}
}

```

activity_main.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">

    <?xml version="1.0" encoding="utf-8"?>

    <TableLayout
        android:id="@+id/table"
        android:layout_width="match_parent"
        android:layout_height="250dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.461"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.983">

        <TableRow
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <Button
                android:id="@+id/q"
                android:layout_width="wrap_content"
                android:layout_height="60dp"
                android:layout_weight="1"
                android:backgroundTint="@android:color/background_dark"
                android:text="q"
                android:textAllCaps="false"

                android:textColor="@color/white"
                tools:ignore="TouchTargetSizeCheck" />

            <Button
                android:id="@+id/w"
                android:layout_width="wrap_content"
                android:layout_height="60dp"
                android:layout_marginLeft="1dp"
                android:layout_marginRight="1dp"
                android:layout_weight="1"
                android:backgroundTint="@android:color/background_dark"
                android:text="w"
                android:textAllCaps="false"
                android:textColor="@color/white"
                tools:ignore="TouchTargetSizeCheck" />

            <Button

```



```
        android:id="@+id/e"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="e"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

<Button

```
        android:id="@+id/r"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="r"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

<Button

```
        android:id="@+id/t"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="t"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

<Button

```
        android:id="@+id/y"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="y"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

<Button

```
        android:id="@+id/u"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="u"
        android:textAllCaps="false"
```

```

        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/i"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="i"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/o"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="o"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/p"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="p"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
</TableRow>

<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <Button
        android:id="@+id/a"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="a"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />

    <Button
        android:id="@+id/s"
        android:layout_width="wrap_content"
        android:layout_height="60dp"

```

```
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="s"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/d"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="d"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/f"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="f"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/g"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="g"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/h"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="h"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```

        <Button
            android:id="@+id/j"
            android:layout_width="wrap_content"
            android:layout_height="60dp"
            android:layout_marginLeft="1dp"
            android:layout_marginRight="1dp"
            android:layout_weight="1"
            android:backgroundTint="@android:color/background_dark"
            android:text="j"
            android:textAllCaps="false"
            android:textColor="@color/white"
            tools:ignore="TouchTargetSizeCheck" />

        <Button
            android:id="@+id/k"
            android:layout_width="wrap_content"
            android:layout_height="60dp"
            android:layout_marginLeft="1dp"
            android:layout_marginRight="1dp"
            android:layout_weight="1"
            android:backgroundTint="@android:color/background_dark"
            android:text="k"
            android:textAllCaps="false"
            android:textColor="@color/white"
            tools:ignore="TouchTargetSizeCheck" />

        <Button
            android:id="@+id/l"
            android:layout_width="wrap_content"
            android:layout_height="60dp"
            android:layout_marginLeft="1dp"
            android:layout_weight="1"
            android:backgroundTint="@android:color/background_dark"
            android:text="l"
            android:textAllCaps="false"
            android:textColor="@color/white"
            tools:ignore="TouchTargetSizeCheck" />
    </TableRow>

    <TableRow
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <Button
            android:id="@+id/cap"
            android:layout_width="wrap_content"
            android:layout_height="60dp"
            android:layout_marginLeft="1dp"
            android:layout_marginRight="1dp"
            android:layout_weight="1"
            android:text="^"
            android:backgroundTint="#006400"
            android:textAllCaps="false"
            tools:ignore="TouchTargetSizeCheck" />

        <Button
            android:id="@+id/z"
            android:layout_width="wrap_content"
            android:layout_height="60dp"
            android:layout_marginLeft="1dp"
            android:layout_marginRight="1dp"

```

```
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="z"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/x"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="x"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/c"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="c"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/v"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="v"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/b"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="b"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/n"
```

```

        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"
        android:text="n"
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/m"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="0.8"
    android:backgroundTint="@android:color/background_dark"
    android:text="m"
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/clr"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="0.7"
    android:text="clr"
    android:backgroundTint="#913831"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
</TableRow>

<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <Button
        android:id="@+id/num"
        android:layout_width="0dp"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="2"
        android:text="123"
        android:backgroundTint="#00008b"
        android:textAllCaps="false"
        tools:ignore="TouchTargetSizeCheck" />

    <Button
        android:id="@+id/comma"
        android:layout_width="0dp"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:backgroundTint="@android:color/background_dark"

```

```

        android:text=", "
        android:textAllCaps="false"
        android:textColor="@color/white"
        tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/space"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="4"
    android:text="Space"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/period"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@android:color/background_dark"
    android:text="."
    android:textAllCaps="false"
    android:textColor="@color/white"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/enter"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="2"
    android:text="Enter"
    android:backgroundTint="#e2725b"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
</TableRow>
</TableLayout>

<EditText
    android:id="@+id/type_here"
    android:layout_width="333dp"
    android:layout_height="100dp"
    android:ems="10"
    android:gravity="start|top"
    android:hint="Type here"
    android:inputType="textMultiLine"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.088" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

OUTPUT:

