## 美化界面如下:

- 修改符号使其符合用户直觉, 如"="、"CLC"
- 更改配色
- 更改排版布局,使其放松不拥挤



https://md2pdf.netlify.app 1/12

常规计算器点按加减乘除会互相切换,但这份代码没有实现这个功能,当按下某一个算法符号后,不能切换其他的算法符号。

例如我想要计算"1 + 1"的结果,但是误触到" - "后,不能直接点按" + "更改算法符号,需要全部清除后重新输入。

通过在加减乘除的监听事件中修改如下代码实现直接切换的功能,以加法为例:

```
case R.id.jian: {
    if (ss.length() == 0) {
        edit.setText("0 - ");
        ss = "0 - ";
        break;
}

if (ss.contains("+")||ss.contains("-")||ss.contains("x")||ss.contains(
        ss = ss.substring(0,ss.length()-3);
        ss += " - ";
        edit.setText(ss);
        break;
}
```

具体演示见视频。

## 源码

below is "MainActivity.java"

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

Button btn1, btn2, btn3, btn4, btn5, btn6, btn7, btn8, btn9, btn0; // 数字按钮
Button jia, jian, cheng, chu, dian, sum, clear,back;// +号
EditText edit; // 显示文本

private String ss = "";//设置一个String类型的变量
private String ss1 = "1 + ";
```

https://md2pdf.netlify.app 2/12

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    // 获取页面上的控件
    btn1 = findViewById(R.id.btn1);
    btn2 = findViewById(R.id.btn2);
    btn3 = findViewById(R.id.btn3);
    btn4 = findViewById(R.id.btn4);
    btn5 = findViewById(R.id.btn5);
    btn6 = findViewById(R.id.btn6);
    btn7 = findViewById(R.id.btn7);
    btn8 = findViewById(R.id.btn8);
    btn9 = findViewById(R.id.btn9);
    btn0 = findViewById(R.id.btn0);
    jia = findViewById(R.id.jia);
    jian = findViewById(R.id.jian);
    cheng = findViewById(R.id.cheng);
    chu = findViewById(R.id.chu);
    sum = findViewById(R.id.calculation);
    dian = findViewById(R.id.dian);
    clear = findViewById(R.id.clear);
    edit = findViewById(R.id.edit);
    back = findViewById(R.id.back);
    // 按钮的单击事件
    btn1.setOnClickListener(new Click());
    btn2.setOnClickListener(new Click());
    btn3.setOnClickListener(new Click());
    btn4.setOnClickListener(new Click());
    btn5.setOnClickListener(new Click());
    btn6.setOnClickListener(new Click());
    btn7.setOnClickListener(new Click());
    btn8.setOnClickListener(new Click());
    btn9.setOnClickListener(new Click());
    btn0.setOnClickListener(new Click());
    jia.setOnClickListener(new Click());
    jian.setOnClickListener(new Click());
    cheng.setOnClickListener(new Click());
    chu.setOnClickListener(new Click());
    sum.setOnClickListener(new Click());
    dian.setOnClickListener(new Click());
    clear.setOnClickListener(new Click());
    edit.setOnClickListener(new Click());
    back.setOnClickListener(new Click());
}
// 设置按钮点击后的监听
class Click implements View.OnClickListener {
    public void onClick(View v) {
                                            //switch循环获取点击按钮后的值
        switch (v.getId()) {
            case R.id.clear: {
```

https://md2pdf.netlify.app 3/12

```
ss = "";
    edit.setText(ss);//在edittext里面显示字符串ss
}
break;
case R.id.btn0: {
   ss += "0";
   edit.setText(ss);
}
break;
case R.id.btn1: {
   ss += "1"; // ss=ss+1
   edit.setText(ss);
}
break;
case R.id.btn2: {
   ss += "2";
   edit.setText(ss);
}
break;
case R.id.btn3: {
    ss += "3";
    edit.setText(ss);
}
break;
case R.id.btn4: {
   ss += "4";
   edit.setText(ss);
}
break;
case R.id.btn5: {
   ss += "5";
   edit.setText(ss);
}
break;
case R.id.btn6: {
   ss += "6";
   edit.setText(ss);
}
break;
case R.id.btn7: {
   ss += "7";
   edit.setText(ss);
}
break;
case R.id.btn8: {
   ss += "8";
   edit.setText(ss);
}
break;
case R.id.btn9: {
```

https://md2pdf.netlify.app 4/12

```
ss += "9";
    edit.setText(ss);
}
break;
case R.id.dian: {
    if (ss.length() == 0) {
        break;
    } else {
        ss += ".";
        edit.setText(ss);
    }
}
break;
case R.id.jia: {
    if (ss.length() == 0) {
        edit.setText("0 + ");
        ss = "0 + ";
        break;
    }
    if (ss.contains("+")||ss.contains("-")||ss.contains("x")||ss.contains(
        ss = ss.substring(0,ss.length()-3);
        ss += " + ";
        edit.setText(ss);
        break;
    }
    ss += " + ";
    edit.setText(ss);
}
break;
case R.id.jian: {
    if (ss.length() == 0) {
        edit.setText("0 - ");
        ss = "0 - ";
        break;
    }
    if (ss.contains("+")||ss.contains("-")||ss.contains("x")||ss.contains(
        ss = ss.substring(0,ss.length()-3);
        ss += " - ";
        edit.setText(ss);
        break;
    }
    ss += " - ";
    edit.setText(ss);
}
break;
case R.id.cheng: {
    if (ss.length() == 0) {
        edit.setText("0 x ");
        ss = "0 \times ";
        break;
    }
```

https://md2pdf.netlify.app 5/12

if (ss.contains("+")||ss.contains("-")||ss.contains("x")||ss.contains(

```
ss = ss.substring(0,ss.length()-3);
                    ss += " x ";
                    edit.setText(ss);
                    break;
                }
                ss += " x ";
                edit.setText(ss);
            }
            break;
            case R.id.chu: {
                if (ss.length() == 0) {
                    edit.setText("0 / ");
                    ss = "0 / ";
                    break;
                }
                if (ss.contains("+")||ss.contains("-")||ss.contains("x")||ss.contains(
                    ss = ss.substring(0,ss.length()-3);
                    ss += " / ";
                    edit.setText(ss);
                    break;
                }
                ss += " / ";
                edit.setText(ss);
            }
            break;
            case R.id.calculation:
                getResult();
                break;
            case R.id.back: {
                if (ss.contains(" ")){
                    if (ss.indexOf(" ") == ss.length() - 3) {
                        ss = ss.substring(0, ss.length() - 3);
                        edit.setText(ss);
                        break;
                    }
                }
                ss = ss.substring(0, ss.length() - 1);
                edit.setText(ss);
                break;
            }
        }
    }
}
private void getResult() {
    double result = 0;
    if (ss == null || ss.equals("")) return;
```

https://md2pdf.netlify.app 6/12

```
if (!ss.contains(" ")) return;
        String s1 = ss.substring(0, ss.index0f(" "));
        String op = ss.substring(ss.indexOf(" ") + 1, ss.indexOf(" ") + 2);
        String s2 = ss.substring(ss.indexOf(" ") + 3);
        if (!s1.equals("") && !s2.equals("")) {
//
              float d1 = Float.parseFloat(s1);
//
              float d2 = Float.parseFloat(s2);
            double d1 = Double.parseDouble(s1);
            double d2 = Double.parseDouble(s2);
            switch (op) {
                case "+":
                    result = d1 + d2;
                    break;
                case "-":
                    result = d1 - d2;
                    break;
                case "x":
                    result = d1 * d2;
                    break;
                case "/": {
                    if (d2 == 0) {
                        Toast.makeText(MainActivity.this, "不能除以零", Toast.LENGTH_SHORT)
                        break;
                    }
                    result = d1 / d2 * 1.0;
                }
                break;
            }
//
              edit.setText(result + "");
              ss = "" + result;
//
            int r = (int) result;
            if (r == result) {
                edit.setText("" + r);
                ss = "" + r;
            } else {
                ss = "" + result; //将double类型的result转成string类型的数据存储在ss中
                ss = ss.substring(0,ss.length()-1);
//
                  edit.setText(result+ "");
                edit.setText(ss);
            }
        }
    }
}
```

below is "activity\_main.xml"

https://md2pdf.netlify.app 7/12

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
 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:orientation="vertical"
 android:padding="30dp"
 android:background="#efefef">
    <TextView
 android:layout width="match parent"
 android:layout_height="wrap_content"
 android:text="计算器"
 android:textSize="40sp"
 android:textColor="#999999"
 android:layout marginBottom="30dp"
 android:gravity="center"/>
    <EditText
 android:id="@+id/edit"
 android:textSize="40dp"
 android:layout width="match parent"
 android:layout_height="100dp"
 android:gravity="end|bottom"
 />
    <LinearLayout</pre>
 android:layout_width="match_parent"
 android:layout height="wrap content"
 android:orientation="horizontal">
        <Button
 android:id="@+id/clear"
 android:layout width="0dp"
 android:layout height="wrap content"
 android:layout margin="5dp"
 android:layout weight="1"
 android:text="clc"
 android:textSize="25dp"/>
        <Button
 android:id="@+id/calculation"
 android:layout width="0dp"
 android:layout_height="wrap_content"
 android:layout_margin="5dp"
 android:layout weight="1"
 android:text="="
 android:textSize="25dp" />
    </LinearLayout>
    <GridLayout
 android:layout width="match parent"
 android:layout height="wrap content"
```

https://md2pdf.netlify.app 8/12

```
android:rowCount="4"
android:columnCount="4"
      <Button
android:id="@+id/btn1"
android:layout width="70dp"
android:layout height="wrap content"
android:layout_margin="6dp"
android:text="1"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn2"
android:layout_width="70dp"
android:layout_height="wrap_content"
android:layout margin="6dp"
android:text="2"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn3"
android:layout width="70dp"
android:layout_height="wrap_content"
android:layout_margin="6dp"
android:text="3"
android:textSize="25sp"/>
      <Button
android:id="@+id/jia"
android:layout_width="70dp"
android:layout height="wrap content"
android:layout row="0"
android:layout_margin="6dp"
android:text="+"
android:textSize="25sp" />
      <Button
android:id="@+id/btn4"
android:layout width="70dp"
android:layout_height="wrap_content"
android:layout_margin="6dp"
android:text="4"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn5"
android:layout width="70dp"
android:layout_height="wrap_content"
android:layout margin="6dp"
android:text="5"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn6"
android:layout width="70dp"
```

https://md2pdf.netlify.app 9/12

```
android:layout height="wrap content"
android:lavout margin="6dp"
android:text="6"
android:textSize="25sp"/>
      <Button
android:id="@+id/iian"
android:layout_width="70dp"
android:layout height="wrap content"
android:layout margin="6dp"
android:text="-"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn7"
android:layout width="70dp"
android:layout_height="wrap_content"
android:layout_margin="6dp"
android:text="7"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn8"
android:layout width="70dp"
android:layout height="wrap content"
android:layout_margin="6dp"
android:text="8"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn9"
android:layout width="70dp"
android:layout height="wrap content"
android:layout_margin="6dp"
android:text="9"
android:textSize="25sp"/>
      <Button
android:id="@+id/cheng"
android:layout width="70dp"
android:layout height="wrap content"
android:layout margin="6dp"
android:text="x"
android:textAllCaps="false"
android:textSize="25sp"/>
      <Button
android:id="@+id/btn0"
android:layout width="70dp"
android:layout_height="wrap_content"
android:layout margin="6dp"
android:text="0"
android:textSize="25sp"/>
      <Button
android:id="@+id/dian"
android:layout_width="70dp"
android:layout height="wrap content"
android:layout margin="6dp"
android:text="."
```

https://md2pdf.netlify.app 10/12

```
android:textSize="25sp"/>
        <Button
 android:id="@+id/back"
 android:layout_width="70dp"
 android:layout height="wrap content"
 android:layout margin="6dp"
 android:text="←"
 android:textSize="25sp"/>
        <Button
 android:id="@+id/chu"
 android:layout_width="70dp"
 android:layout_height="wrap_content"
 android:layout_margin="6dp"
 android:text="÷"
 android:textSize="25sp"/>
    </GridLayout>
</LinearLayout>
```

## below is "theme.xml"

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.MyApplication" parent="Theme.MaterialComponents.DayNight.DarkActionBar"</pre>
        <!-- Primary brand color. -->
        <item name="colorPrimary">@color/grey</item>
        <item name="colorPrimaryVariant">@color/darkGrey</item>
        <item name="colorOnPrimary">@color/white</item>
        <!-- Secondary brand color. -->
        <item name="colorSecondary">@color/teal 200</item>
        <item name="colorSecondaryVariant">@color/teal 700</item>
        <item name="colorOnSecondary">@color/black</item>
        <!-- Status bar color. -->
        <item name="android:statusBarColor" tools:targetApi="l">?attr/colorPrimaryVariant</ite</pre>
        <!-- Customize your theme here. -->
    </style>
</resources>
```

## below is "color.xml"

https://md2pdf.netlify.app 11/12

<color name="darkGrey">#5e5e5e</color>

</resources>

https://md2pdf.netlify.app 12/12