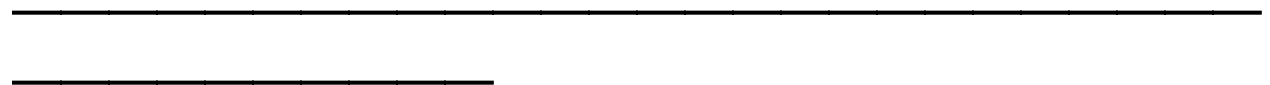


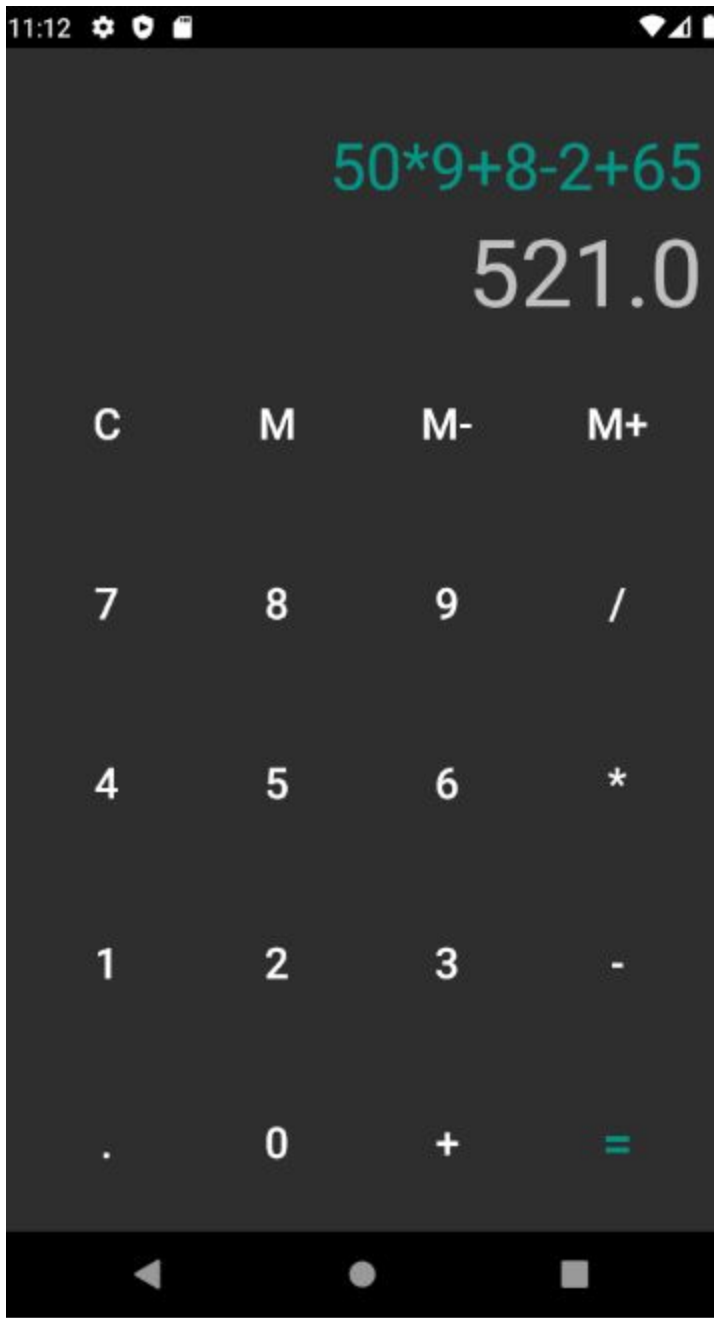
Assignment 2

Mobile Computing



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16p6071



MainActivity.kt

I'm using Kotlin because I'm just really sick of Java. I've used it way too much past couple of years that I just don't want to ever use it again.

```

1  package com.example.calculator
2
3  import android.annotation.SuppressLint
4  import android.app.UiModeManager.MODE_NIGHT_YES
5  import android.os.Bundle
6  import android.view.View
7  import android.widget.Button
8  import android.widget.TextView
9  import android.widget.Toast
10 import androidx.appcompat.app.AppCompatActivity
11 import androidx.appcompat.app.AppCompatActivity
12 import com.itis.libs.parserng.android.expressParser.MathExpression
13 import net.objecthunter.exp4j.ExpressionBuilder
14
15
16 class MainActivity : AppCompatActivity() {
17
18     var stateError: Boolean = false
19     lateinit var txtInput: TextView
20     lateinit var output: TextView
21     var lastNumeric: Boolean = true
22     var lastDot: Boolean = false
23     var temp: String = ""
24     var memory: String = ""
25     @SuppressLint( ...value: "WrongConstant")
26     override fun onCreate(savedInstanceState: Bundle?) {
27         super.onCreate(savedInstanceState)
28         setContentView(R.layout.activity_main)
29         AppCompatActivity.setDefaultNightMode(MODE_NIGHT_YES)
30         println("bruh we booooooooooooooooooolin")
31         txtInput = findViewById(R.id.inputTextView)
32         output = findViewById(R.id.resultTextView)
33         txtInput.append("0")
34         temp = "0"
35
36     }
37
38     fun onDigit(view: View) {
39         if (stateError) {
40             // If current state is Error, replace the error message
41             txtInput.text = (view as Button).text
42             stateError = false
43         } else {
44             // If not, already there is a valid expression so append to it
45             txtInput.append((view as Button).text)
46         }
47     }
48 }

```

```

45     }
46     // Set the flag
47     lastNumeric = true
48 }
49 fun onButtonClick(view: View) {
50     var buttonText = (view as Button).text.toString();
51     if(buttonText=="*"){
52         if (!stateError) {
53             txtInput.append((view as Button).text)
54             lastNumeric = true
55             lastDot = false    // Reset the DOT flag
56             temp = ""
57         }
58     }else if(buttonText=="+"){
59         if (lastNumeric && !stateError) {
60             txtInput.append((view as Button).text)
61             lastNumeric = false
62             lastDot = false    // Reset the DOT flag
63             temp = ""
64         }
65     }else if(buttonText=="-"){
66         if (lastNumeric && !stateError) {
67             txtInput.append((view as Button).text)
68             lastNumeric = false
69             lastDot = false    // Reset the DOT flag
70             temp = ""
71         }
72     }else if(buttonText==""){
73         if (!stateError) {
74             txtInput.append((view as Button).text)
75             lastNumeric = false
76             lastDot = false    // Reset the DOT flag
77             temp = ""
78         }
79     }else if(buttonText=="."){
80         if (lastNumeric && !stateError && !lastDot) {
81             txtInput.append(".")
82             lastNumeric = false
83             lastDot = true
84             temp = ""
85         }
86     }else if(buttonText=="="){
87         if (lastNumeric && !stateError) {

```

```

79     }else if(buttonText=="."){
80         if (lastNumeric && !stateError && !lastDot) {
81             txtInput.append(".")
82             lastNumeric = false
83             lastDot = true
84             temp = ""
85         }
86     }else if(buttonText=="="){
87         if (lastNumeric && !stateError) {
88             evaluate()
89             txtInput.text = ""
90             lastNumeric = false
91             lastDot = false
92             txtInput.append("0")
93             temp = "0"
94         }
95     }
96     }else if(buttonText=="M"){
97         if (!stateError) {
98             txtInput.append(memory)
99             if(temp.startsWith( char: '0')&&temp.length>1&&!lastDot){
100                 temp = temp.drop( n: 1)
101                 //temp.removePrefix(0.toString())
102                 println(temp)
103                 txtInput.append((view as Button).text)
104                 txtInput.text=txtInput.text.dropLast( n: 2)
105                 txtInput.append((view as Button).text)
106             }
107             println("memory")
108             evaluate()
109             lastNumeric = true
110             stateError = false
111         }
112     }
113     }else if(buttonText=="M-"){
114
115         memory = ""
116         lastNumeric = false
117         lastDot = false
118         println("memory cleared")
119
120     }else if(buttonText=="M+"){
121         if (lastNumeric && !stateError) {

```

```

107     }
108     println("memory")
109     evaluate()
110     lastNumeric = true
111     stateError = false
112 }
113 }else if(buttonText=="M-"){
114
115     memory = ""
116     lastNumeric = false
117     lastDot = false
118     println("memory cleared")
119
120 }else if(buttonText=="M+"){
121     if (lastNumeric && !stateError) {
122         evaluate()
123         var test:Int
124         test= output.text.toString().toFloat().toInt()
125         if(test.toFloat()==output.text.toString().toFloat()){
126             memory=output.text.toString().toFloat().toInt().toString()
127         }else {
128             memory = output.text.toString()
129         }
130         println(memory)
131         lastNumeric = false
132         lastDot = false
133     }
134 }
135 }else if(buttonText=="C"){
136     txtInput.text = ""
137     lastNumeric = false
138     stateError = false
139     lastDot = false
140     txtInput.append("")
141     output.text=""
142     temp ="0"
143
144 }else{
145     if (stateError) {
146         // If current state is Error, replace the error message
147         txtInput.text = (view as Button).text
148         stateError = false
149     } else {
150         temp+=(view as Button).text
151     }

```



```

151         temp+=(view as Button).text
152         // If not, already there is a valid expression so append to it
153         //println(temp)
154         if(temp.startsWith( char: '0') && temp.length>1 && !lastDot){
155             temp = temp.drop( n: 1)
156             //temp.removePrefix(0.toString())
157             println(temp)
158             txtInput.append((view as Button).text)
159             txtInput.text=txtInput.text.dropLast( n: 2)
160             txtInput.append((view as Button).text)
161
162         }else{
163             txtInput.append((view as Button).text)
164
165         }
166     }
167     // Set the flag
168     lastNumeric = true
169     stateError = false
170
171     evaluate()
172 }
173 //println(buttonText)
174
175 }
176
177 private fun evaluate() {
178     val txt = txtInput.text.toString()
179     // Create an Expression (A class from exp4j library)
180     val expression = ExpressionBuilder(txt).build()
181     try {
182         // Calculate the result and display
183         val result = expression.evaluate()
184         val expr = MathExpression(txt)
185         println(expr.solve())
186         output.text = String.format("%.4g",result)
187     } catch (ex: ArithmeticException) {
188         // Display an error message
189         output.text = "Error"
190         Toast.makeText(this,applicationContext, text: "You should know how to use a calculator by now come on.", Toast.LENGTH_SHORT).show()
191
192         stateError = true
193         lastNumeric = false
194     } catch (ex:Exception){
195
196     }
197 }

```

MainActivity > onClick() > if ... else if (buttonText=="M") > if (!stateError) > if (temp.startsWith...

activity_main.xml


```
38
39
40     <Button
41         android:id="@+id/clearButton"
42         style="@style/Widget.AppCompat.Button.Borderless"
43         android:layout_width="match_parent"
44         android:layout_height="match_parent"
45         android:layout_weight="1"
46         android:onClick="onButtonClick"
47         android:text="C"
48         android:textSize="24sp" />
49
50     <Button
51         android:id="@+id/memoryButton"
52         style="@style/Widget.AppCompat.Button.Borderless"
53         android:layout_width="match_parent"
54         android:layout_height="match_parent"
55         android:layout_weight="1"
56         android:onClick="onButtonClick"
57         android:text="@string/memoryButton"
58         android:textSize="24sp" />
59
60     <Button
61         android:id="@+id/memoryRemove"
62         style="@style/Widget.AppCompat.Button.Borderless"
63         android:layout_width="match_parent"
64         android:layout_height="match_parent"
65         android:layout_weight="1"
66         android:onClick="onButtonClick"
67         android:text="@string/memoryRemove"
68         android:textSize="24sp" />
69
70     <Button
71         android:id="@+id/memoryAdd"
72         style="@style/Widget.AppCompat.Button.Borderless"
73         android:layout_width="match_parent"
74         android:layout_height="match_parent"
75         android:layout_weight="1"
76         android:text="@string/memoryAdd"
77         android:onClick="onButtonClick"
78         android:textSize="24sp" />
79 </TableRow>
```

```

80 <TableRow
81     android:layout_width="match_parent"
82     android:layout_height="match_parent"
83     android:minHeight="100dp">
84
85     <Button
86         android:id="@+id/_7Button"
87         style="@style/Widget.AppCompat.Button.Borderless"
88         android:layout_width="match_parent"
89         android:layout_height="match_parent"
90         android:layout_weight="1"
91         android:onClick="onButtonClick"
92         android:text="7"
93         android:textSize="24sp" />
94
95     <Button
96         android:id="@+id/_8Button"
97         style="@style/Widget.AppCompat.Button.Borderless"
98         android:layout_width="match_parent"
99         android:layout_height="match_parent"
100        android:layout_weight="1"
101        android:onClick="onButtonClick"
102        android:text="8"
103        android:textSize="24sp" />
104
105    <Button
106        android:id="@+id/_9Button"
107        style="@style/Widget.AppCompat.Button.Borderless"
108        android:layout_width="match_parent"
109        android:layout_height="match_parent"
110        android:layout_weight="1"
111        android:onClick="onButtonClick"
112        android:text="9"
113        android:textSize="24sp" />
114
115    <Button
116        android:id="@+id/divideButton"
117        style="@style/Widget.AppCompat.Button.Borderless"
118        android:layout_width="match_parent"
119        android:layout_height="match_parent"

```

```
105 <Button
106     android:id="@+id/_9Button"
107     style="@style/Widget.AppCompat.Button.Borderless"
108     android:layout_width="match_parent"
109     android:layout_height="match_parent"
110     android:layout_weight="1"
111     android:onClick="onButtonClick"
112     android:text="9"
113     android:textSize="24sp" />
114
115 <Button
116     android:id="@+id/divideButton"
117     style="@style/Widget.AppCompat.Button.Borderless"
118     android:layout_width="match_parent"
119     android:layout_height="match_parent"
120     android:layout_weight="1"
121     android:onClick="onButtonClick"
122     android:text="@string/divideButton"
123     android:textSize="24sp" />
124
125 </TableRow>
126
127 <TableRow
128     android:layout_width="match_parent"
129     android:layout_height="match_parent"
130     android:minHeight="100dp">
131
132     <Button
133         android:id="@+id/_4Button"
134         style="@style/Widget.AppCompat.Button.Borderless"
135         android:layout_width="match_parent"
136         android:layout_height="match_parent"
137         android:layout_weight="1"
138         android:onClick="onButtonClick"
139         android:text="4"
140         android:textSize="24sp" />
141
142     <Button
143         android:id="@+id/_5Button"
144         style="@style/Widget.AppCompat.Button.Borderless"
```



```

142 <Button
143     android:id="@+id/_5Button"
144     style="@style/Widget.AppCompat.Button.Borderless"
145     android:layout_width="match_parent"
146     android:layout_height="match_parent"
147     android:layout_weight="1"
148     android:onClick="onButtonClick"
149     android:text="5"
150     android:textSize="24sp" />
151
152 <Button
153     android:id="@+id/_6Button"
154     style="@style/Widget.AppCompat.Button.Borderless"
155     android:layout_width="match_parent"
156     android:layout_height="match_parent"
157     android:layout_weight="1"
158     android:onClick="onButtonClick"
159     android:text="6"
160     android:textSize="24sp" />
161
162 <Button
163     android:id="@+id/multiplyButton"
164     style="@style/Widget.AppCompat.Button.Borderless"
165     android:layout_width="match_parent"
166     android:layout_height="match_parent"
167     android:layout_weight="1"
168     android:onClick="onButtonClick"
169     android:text="@string/multiplyButton"
170     android:textSize="24sp" />
171
172 </TableRow>
173
174 <TableRow
175     android:layout_width="wrap_content"
176     android:layout_height="wrap_content"
177     android:minHeight="100dp">
178
179     <Button
180         android:id="@+id/_1Button"
181         style="@style/Widget.AppCompat.Button.Borderless"
182         android:layout_width="match_parent"
183         android:layout_height="match_parent"
184         android:layout_weight="1"
185         android:onClick="onButtonClick"

```

LinearLayout > TableLayout > TableRow > Button

```

189     <Button
190         android:id="@+id/_2Button"
191         style="@style/Widget.AppCompat.Button.Borderless"
192         android:layout_width="match_parent"
193         android:layout_height="match_parent"
194         android:layout_weight="1"
195         android:onClick="onButtonClick"
196         android:text="2"
197         android:textSize="24sp" />
198
199     <Button
200         android:id="@+id/_3Button"
201         style="@style/Widget.AppCompat.Button.Borderless"
202         android:layout_width="match_parent"
203         android:layout_height="match_parent"
204         android:layout_weight="1"
205         android:onClick="onButtonClick"
206         android:text="3"
207         android:textSize="24sp" />
208
209     <Button
210         android:id="@+id/minusButton"
211         style="@style/Widget.AppCompat.Button.Borderless"
212         android:layout_width="match_parent"
213         android:layout_height="match_parent"
214         android:layout_weight="1"
215         android:onClick="onButtonClick"
216         android:text="@string/minusButton"
217         android:textSize="24sp" />
218
219 </TableRow>
220
221 <TableRow
222     android:layout_width="wrap_content"
223     android:layout_height="wrap_content"
224     android:minHeight="100dp">
225
226     <Button
227         android:id="@+id/_1.Button"
228         style="@style/Widget.AppCompat.Button.Borderless"
229         android:layout_width="match_parent"
230         android:layout_height="match_parent"

```



```

236     <Button
237         android:id="@+id/_0Button"
238         style="@style/Widget.AppCompat.Button.Borderless"
239         android:layout_width="match_parent"
240         android:layout_height="match_parent"
241         android:layout_weight="1"
242         android:onClick="onButtonClick"
243         android:text="@string/_0Button"
244         android:textSize="24sp" />
245
246     <Button
247         android:id="@+id/addButton"
248         style="@style/Widget.AppCompat.Button.Borderless"
249         android:layout_width="match_parent"
250         android:layout_height="match_parent"
251         android:layout_weight="1"
252         android:onClick="onButtonClick"
253         android:text="@string/addButton"
254         android:textSize="24sp" />
255
256     <Button
257         android:id="@+id/equalButton"
258         style="@style/Widget.AppCompat.Button.Borderless"
259         android:layout_width="match_parent"
260         android:layout_height="match_parent"
261         android:layout_weight="1"
262         android:onClick="onButtonClick"
263         android:text="="
264         android:textColor="#009688"
265         android:textSize="30sp" />
266
267     </TableRow>
268 </TableLayout>
269
270 </LinearLayout>

```

APK:https://drive.google.com/file/d/1zWPED7_tlvfFVGWxhQT4nleiEy7BDgRv/view?usp=sharing