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Date: July 5, 2023

Course & Section: BSIT 1-1

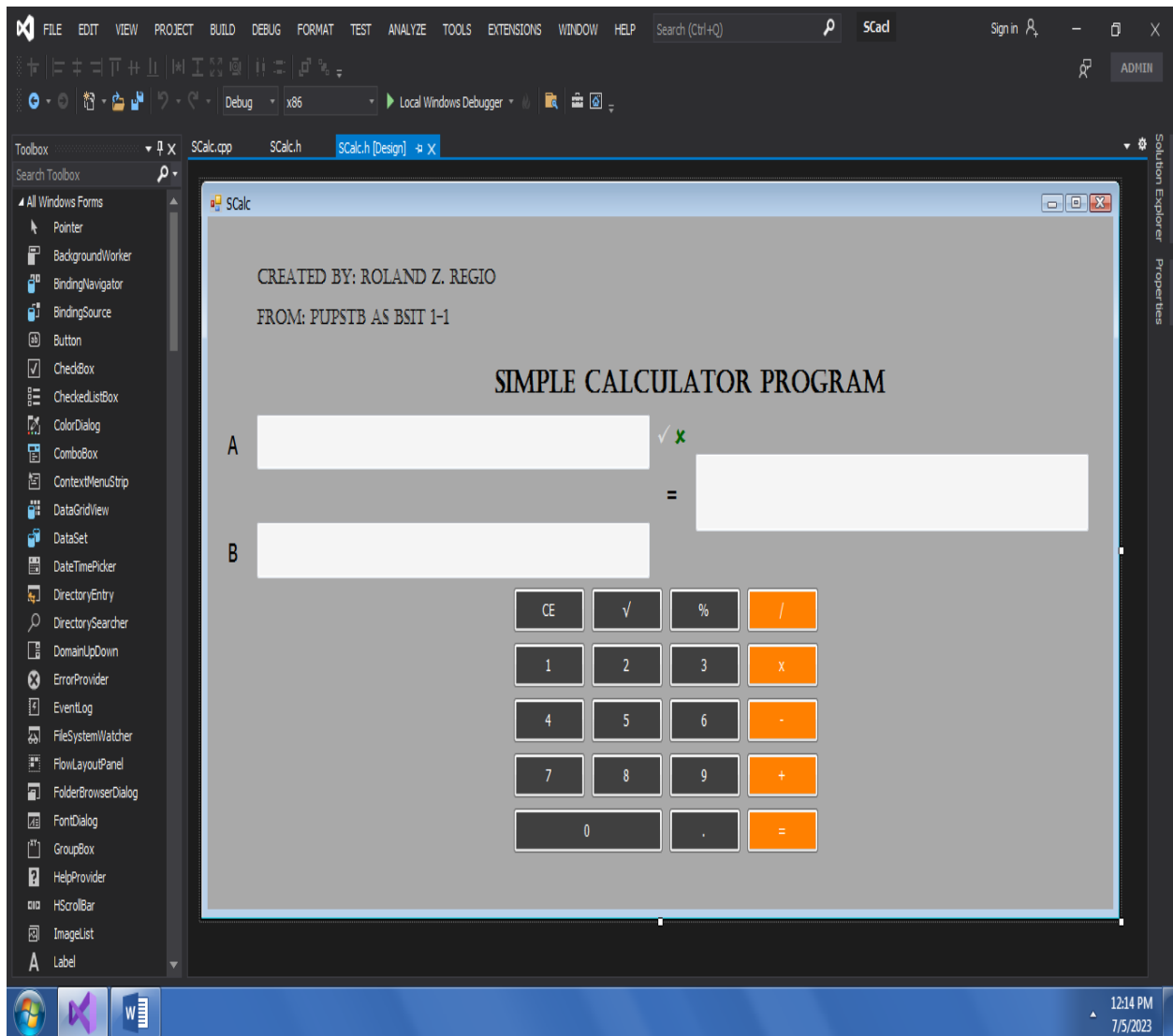
Professor: Ma'am Marienel Velasco

COMPUTER PROGRAMMING 2

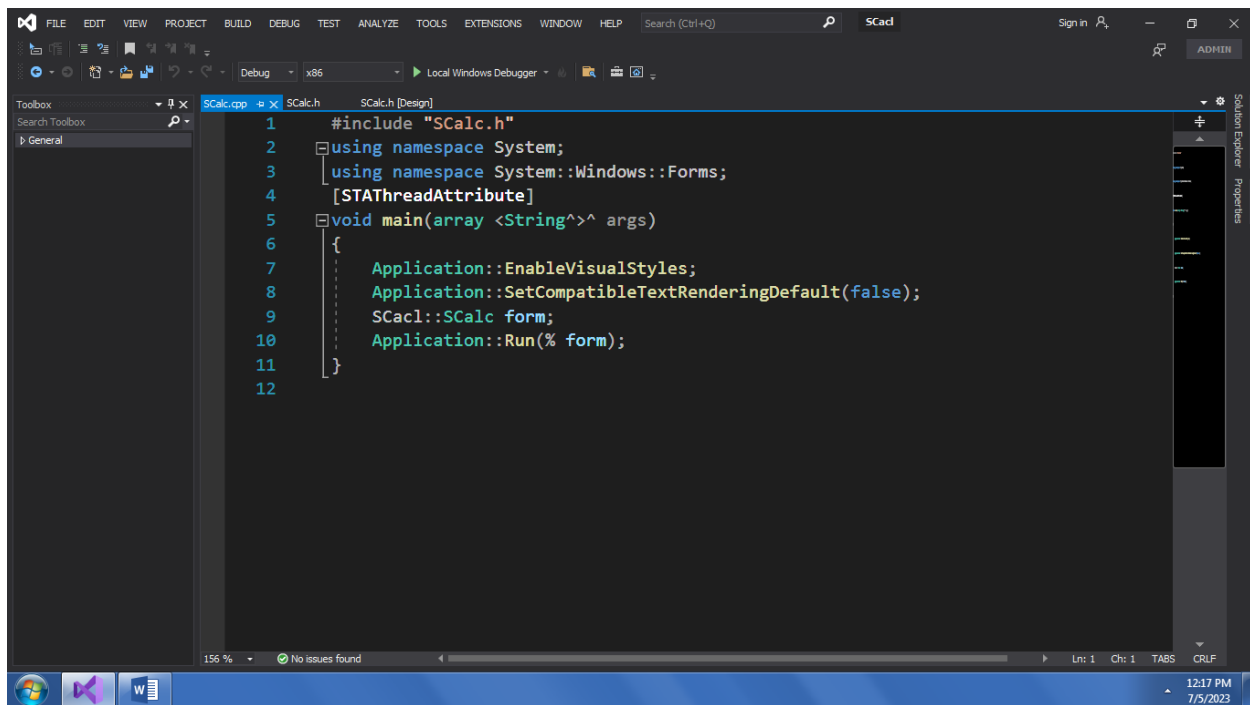
Activity#4: Simple Calculator (CODES & OUTPUT)

PROGRAM CODES

Program Design



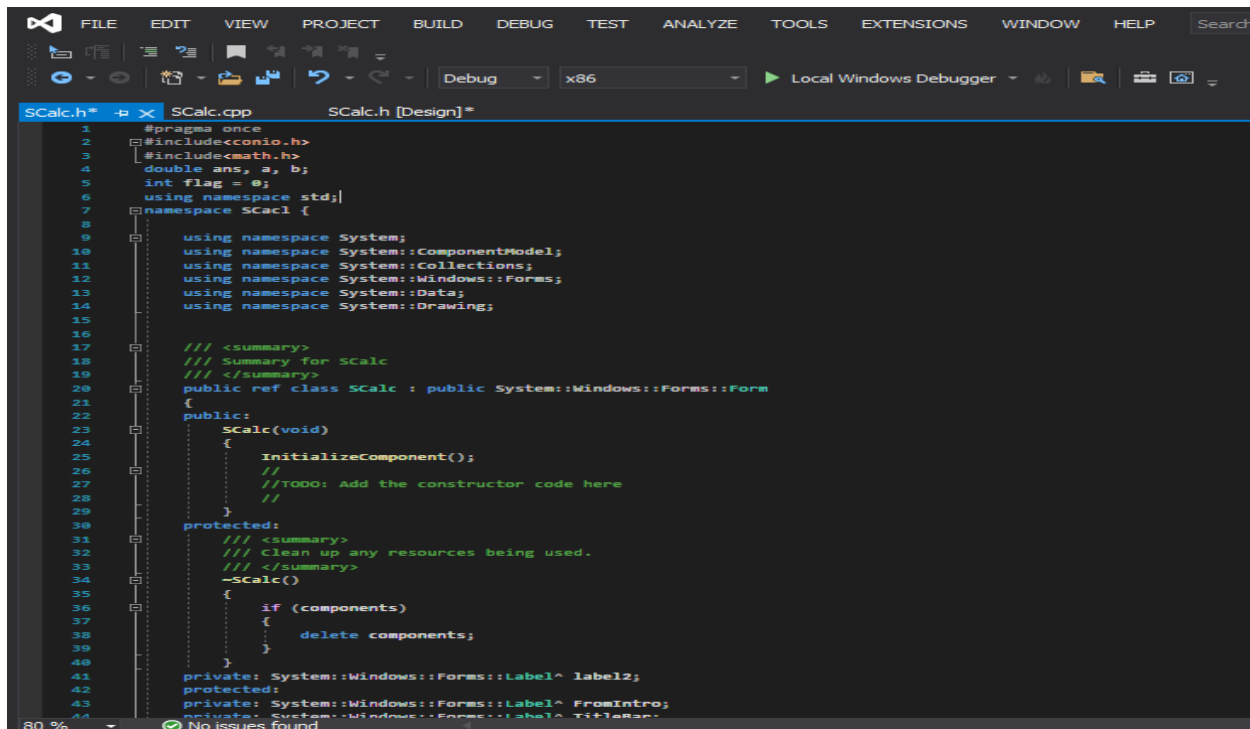
Program CPP Codes



The screenshot shows the Visual Studio IDE with the file SCalc.cpp open. The code implements the main function and initializes the application. The status bar at the bottom indicates '156 %' zoom and 'No issues found'.

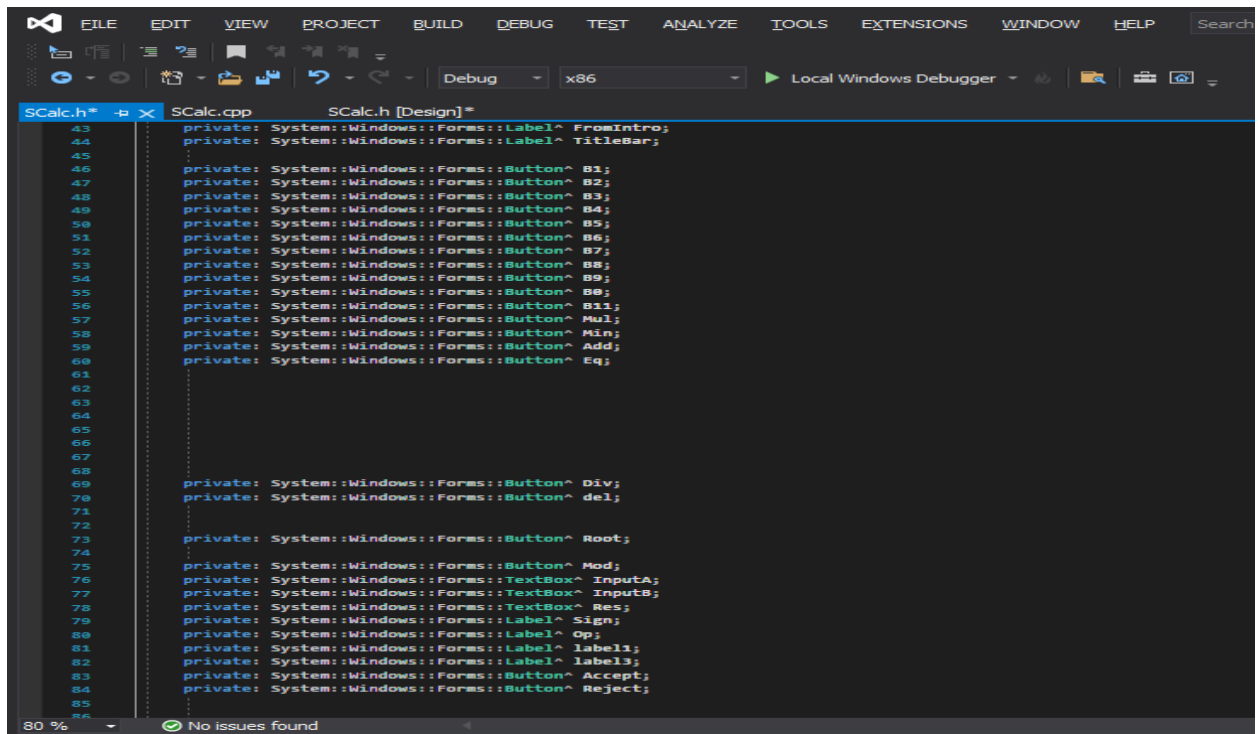
```
1 #include "SCalc.h"
2 using namespace System;
3 using namespace System::Windows::Forms;
4 [STAThreadAttribute]
5 void main(array<String^>^ args)
6 {
7     Application::EnableVisualStyles();
8     Application::SetCompatibleTextRenderingDefault(false);
9     SCalc::SCalc form;
10    Application::Run(% form);
11 }
12
```

Program Header Codes

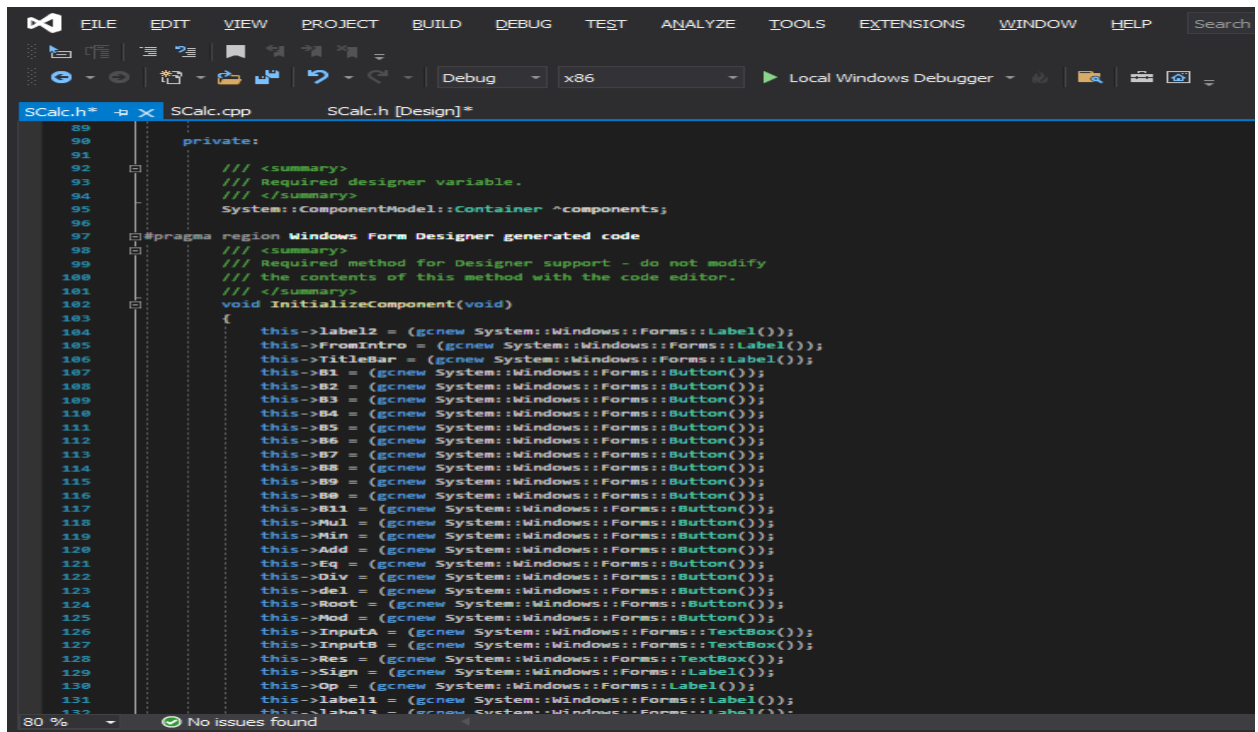


The screenshot shows the Visual Studio IDE with the file SCalc.h open. The code defines the SCalc class and includes necessary headers. The status bar at the bottom indicates '80 %' zoom and 'No issues found'.

```
1 #pragma once
2 #include<conio.h>
3 #include<math.h>
4 double ans, a, b;
5 int flag = 0;
6 using namespace std;
7 namespace SCalc {
8
9     using namespace System;
10    using namespace System::ComponentModel;
11    using namespace System::Collections;
12    using namespace System::Windows::Forms;
13    using namespace System::Data;
14    using namespace System::Drawing;
15
16    /// <summary>
17    /// Summary for SCalc
18    /// </summary>
19    public ref class SCalc : public System::Windows::Forms::Form
20    {
21    public:
22        SCalc(void)
23        {
24            InitializeComponent();
25            // TODO: Add the constructor code here
26            //
27        }
28    protected:
29        /// <summary>
30        /// Clean up any resources being used.
31        /// </summary>
32        ~SCalc()
33        {
34            if (components)
35            {
36                delete components;
37            }
38        }
39    private: System::Windows::Forms::Label^ label1;
40    protected:
41    private: System::Windows::Forms::Label^ FromIntro;
42    private: System::Windows::Forms::Label^ TitleBar;
43 }
44
```



```
SCalc.h* SCalc.cpp SCalc.h [Design]*
43 private: System::Windows::Forms::Label^ FromIntro;
44 private: System::Windows::Forms::Label^ TitleBar;
45
46 private: System::Windows::Forms::Button^ B1;
47 private: System::Windows::Forms::Button^ B2;
48 private: System::Windows::Forms::Button^ B3;
49 private: System::Windows::Forms::Button^ B4;
50 private: System::Windows::Forms::Button^ B5;
51 private: System::Windows::Forms::Button^ B6;
52 private: System::Windows::Forms::Button^ B7;
53 private: System::Windows::Forms::Button^ B8;
54 private: System::Windows::Forms::Button^ B9;
55 private: System::Windows::Forms::Button^ B10;
56 private: System::Windows::Forms::Button^ B11;
57 private: System::Windows::Forms::Button^ Mul;
58 private: System::Windows::Forms::Button^ Min;
59 private: System::Windows::Forms::Button^ Add;
60 private: System::Windows::Forms::Button^ Eq;
61
62
63
64
65
66
67
68
69 private: System::Windows::Forms::Button^ Div;
70 private: System::Windows::Forms::Button^ del;
71
72
73 private: System::Windows::Forms::Button^ Root;
74
75
76 private: System::Windows::Forms::Button^ Mod;
77 private: System::Windows::Forms::TextBox^ InputA;
78 private: System::Windows::Forms::TextBox^ InputB;
79 private: System::Windows::Forms::TextBox^ Res;
80 private: System::Windows::Forms::Label^ Sign;
81 private: System::Windows::Forms::Label^ Op;
82 private: System::Windows::Forms::Label^ label1;
83 private: System::Windows::Forms::Label^ label3;
84 private: System::Windows::Forms::Button^ Accept;
85 private: System::Windows::Forms::Button^ Reject;
86
80 % No issues found
```



```
SCalc.h* SCalc.cpp SCalc.h [Design]*
89 private:
90
91
92 /// <summary>
93 /// Required designer variable.
94 /// </summary>
95 System::ComponentModel::Container ^components;
96
97 #pragma region Windows Form Designer generated code
98
99 /// <summary>
100 /// Required method for Designer support - do not modify
101 /// the contents of this method with the code editor.
102 /// </summary>
103 void InitializeComponent(void)
104 {
105     this->label2 = (gcnew System::Windows::Forms::Label());
106     this->FromIntro = (gcnew System::Windows::Forms::Label());
107     this->TitleBar = (gcnew System::Windows::Forms::Label());
108     this->B1 = (gcnew System::Windows::Forms::Button());
109     this->B2 = (gcnew System::Windows::Forms::Button());
110     this->B3 = (gcnew System::Windows::Forms::Button());
111     this->B4 = (gcnew System::Windows::Forms::Button());
112     this->B5 = (gcnew System::Windows::Forms::Button());
113     this->B6 = (gcnew System::Windows::Forms::Button());
114     this->B7 = (gcnew System::Windows::Forms::Button());
115     this->B8 = (gcnew System::Windows::Forms::Button());
116     this->B9 = (gcnew System::Windows::Forms::Button());
117     this->B10 = (gcnew System::Windows::Forms::Button());
118     this->B11 = (gcnew System::Windows::Forms::Button());
119     this->Mul = (gcnew System::Windows::Forms::Button());
120     this->Min = (gcnew System::Windows::Forms::Button());
121     this->Add = (gcnew System::Windows::Forms::Button());
122     this->Eq = (gcnew System::Windows::Forms::Button());
123     this->Div = (gcnew System::Windows::Forms::Button());
124     this->del = (gcnew System::Windows::Forms::Button());
125     this->Root = (gcnew System::Windows::Forms::Button());
126     this->Mod = (gcnew System::Windows::Forms::Button());
127     this->InputA = (gcnew System::Windows::Forms::TextBox());
128     this->InputB = (gcnew System::Windows::Forms::TextBox());
129     this->Res = (gcnew System::Windows::Forms::TextBox());
130     this->Sign = (gcnew System::Windows::Forms::Label());
131     this->Op = (gcnew System::Windows::Forms::Label());
132     this->label1 = (gcnew System::Windows::Forms::Label());
133     this->label3 = (gcnew System::Windows::Forms::Label());
134
135     components->Add(this->label2);
136     components->Add(this->FromIntro);
137     components->Add(this->TitleBar);
138     components->Add(this->B1);
139     components->Add(this->B2);
140     components->Add(this->B3);
141     components->Add(this->B4);
142     components->Add(this->B5);
143     components->Add(this->B6);
144     components->Add(this->B7);
145     components->Add(this->B8);
146     components->Add(this->B9);
147     components->Add(this->B10);
148     components->Add(this->B11);
149     components->Add(this->Mul);
150     components->Add(this->Min);
151     components->Add(this->Add);
152     components->Add(this->Eq);
153     components->Add(this->Div);
154     components->Add(this->del);
155     components->Add(this->Root);
156     components->Add(this->Mod);
157     components->Add(this->InputA);
158     components->Add(this->InputB);
159     components->Add(this->Res);
160     components->Add(this->Sign);
161     components->Add(this->Op);
162     components->Add(this->label1);
163     components->Add(this->label3);
164
165     this->components = components;
166 }
167
168 80 % No issues found
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
131 this->label1 = (gcnew System::Windows::Forms::Label());
132 this->label3 = (gcnew System::Windows::Forms::Label());
133 this->Accept = (gcnew System::Windows::Forms::Button());
134 this->Reject = (gcnew System::Windows::Forms::Button());
135 this->SuspendLayout();
136 //
137 // label2
138 //
139 this->label2->Anchor = static_cast<System::Windows::Forms::AnchorStyles>(((System::Windows::Forms::AnchorStyles::Top | System::Windows::Forms::AnchorStyles::Left)
140 | System::Windows::Forms::AnchorStyles::Right));
141 this->label2->AutoSize = true;
142 this->label2->BackColor = System::Drawing::Color::Transparent;
143 this->label2->FlatStyle = System::Windows::Forms::FlatStyle::Flat;
144 this->label2->Font = (gcnew System::Drawing::Font(L"Castellar", 12, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
145 static_cast<System::Byte>(0)));
146 this->label2->Location = System::Drawing::Point(54, 35);
147 this->label2->Name = L"label2";
148 this->label2->Size = System::Drawing::Size(288, 19);
149 this->label2->TabIndex = 53;
150 this->label2->Text = L"CREATED BY: ROLAND Z. REGIO";
151 //
152 // FromIntro
153 //
154 this->FromIntro->Anchor = static_cast<System::Windows::Forms::AnchorStyles>(((System::Windows::Forms::AnchorStyles::Top | System::Windows::Forms::AnchorStyles::Left)
155 | System::Windows::Forms::AnchorStyles::Right));
156 this->FromIntro->AutoSize = true;
157 this->FromIntro->BackColor = System::Drawing::Color::Transparent;
158 this->FromIntro->FlatStyle = System::Windows::Forms::FlatStyle::Flat;
159 this->FromIntro->Font = (gcnew System::Drawing::Font(L"Castellar", 12, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
160 static_cast<System::Byte>(0)));
161 this->FromIntro->ForeColor = System::Drawing::SystemColors::Desktop;
162 this->FromIntro->Location = System::Drawing::Point(54, 69);
163 this->FromIntro->Name = L"FromIntro";
164 this->FromIntro->Size = System::Drawing::Size(233, 19);
165 this->FromIntro->TabIndex = 52;
166 this->FromIntro->Text = L"From: PUPSTB as BSIT 1-1";
167 //
168 // TitleBar
169 //
170 this->TitleBar->Anchor = static_cast<System::Windows::Forms::AnchorStyles>(((System::Windows::Forms::AnchorStyles::Top | System::Windows::Forms::AnchorStyles::Left)
171 | System::Windows::Forms::AnchorStyles::Right));
172 this->TitleBar->BackColor = System::Drawing::Color::Transparent;
173 this->TitleBar->FlatStyle = System::Windows::Forms::FlatStyle::Flat;
174 this->TitleBar->Font = (gcnew System::Drawing::Font(L"Castellar", 18, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,
175 static_cast<System::Byte>(0)));
176 this->TitleBar->Location = System::Drawing::Point(100, 103);
177 this->TitleBar->Name = L"TitleBar";
178 this->TitleBar->Size = System::Drawing::Size(930, 43);
179 this->TitleBar->TabIndex = 50;
180 this->TitleBar->Text = L"SIMPLE CALCULATOR PROGRAM";
181 this->TitleBar->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
182 //
183 // B1
184 //
185 this->B1->Anchor = System::Windows::Forms::AnchorStyles::None;
186 this->B1->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
187 static_cast<System::Int32>(static_cast<System::Byte>(64)));
188 this->B1->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
189 static_cast<System::Byte>(0)));
190 this->B1->ForeColor = System::Drawing::Color::White;
191 this->B1->Location = System::Drawing::Point(357, 316);
192 this->B1->Name = L"B1";
193 this->B1->Size = System::Drawing::Size(85, 35);
194 this->B1->TabIndex = 57;
195 this->B1->Text = L"1";
196 this->B1->UseVisualStyleBackColor = false;
197 this->B1->Click += gcnew System::EventHandler(this, &SCalc::B1_Click);
198 //
199 // B2
200 //
201 this->B2->Anchor = System::Windows::Forms::AnchorStyles::None;
202 this->B2->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
203 static_cast<System::Int32>(static_cast<System::Byte>(64)));
204 this->B2->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
205 static_cast<System::Byte>(0)));
206 this->B2->ForeColor = System::Drawing::Color::White;
207 this->B2->Location = System::Drawing::Point(448, 316);
208 this->B2->Name = L"B2";
209 this->B2->Size = System::Drawing::Size(85, 35);
210 this->B2->TabIndex = 58;
211 this->B2->Text = L"2";
212 this->B2->UseVisualStyleBackColor = false;
213 this->B2->Click += gcnew System::EventHandler(this, &SCalc::B2_Click);
214 //
215 // B3
216 //
217 this->B3->Anchor = System::Windows::Forms::AnchorStyles::None;
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
174 this->TitleBar->Font = (gcnew System::Drawing::Font(L"Castellar", 18, System::Drawing::FontStyle::Bold, System::Drawing::GraphicsUnit::Point,
175 static_cast<System::Byte>(0)));
176 this->TitleBar->Location = System::Drawing::Point(100, 103);
177 this->TitleBar->Name = L"TitleBar";
178 this->TitleBar->Size = System::Drawing::Size(930, 43);
179 this->TitleBar->TabIndex = 50;
180 this->TitleBar->Text = L"SIMPLE CALCULATOR PROGRAM";
181 this->TitleBar->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
182 //
183 // B1
184 //
185 this->B1->Anchor = System::Windows::Forms::AnchorStyles::None;
186 this->B1->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
187 static_cast<System::Int32>(static_cast<System::Byte>(64)));
188 this->B1->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
189 static_cast<System::Byte>(0)));
190 this->B1->ForeColor = System::Drawing::Color::White;
191 this->B1->Location = System::Drawing::Point(357, 316);
192 this->B1->Name = L"B1";
193 this->B1->Size = System::Drawing::Size(85, 35);
194 this->B1->TabIndex = 57;
195 this->B1->Text = L"1";
196 this->B1->UseVisualStyleBackColor = false;
197 this->B1->Click += gcnew System::EventHandler(this, &SCalc::B1_Click);
198 //
199 // B2
200 //
201 this->B2->Anchor = System::Windows::Forms::AnchorStyles::None;
202 this->B2->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
203 static_cast<System::Int32>(static_cast<System::Byte>(64)));
204 this->B2->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
205 static_cast<System::Byte>(0)));
206 this->B2->ForeColor = System::Drawing::Color::White;
207 this->B2->Location = System::Drawing::Point(448, 316);
208 this->B2->Name = L"B2";
209 this->B2->Size = System::Drawing::Size(85, 35);
210 this->B2->TabIndex = 58;
211 this->B2->Text = L"2";
212 this->B2->UseVisualStyleBackColor = false;
213 this->B2->Click += gcnew System::EventHandler(this, &SCalc::B2_Click);
214 //
215 // B3
216 //
217 this->B3->Anchor = System::Windows::Forms::AnchorStyles::None;
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
217 this->B3->Anchor = System::Windows::Forms::AnchorStyles::None;
218 this->B3->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
219 static_cast<System::Int32>(static_cast<System::Byte>(64)));
220 this->B3->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
221 static_cast<System::Byte>(0)));
222 this->B3->ForeColor = System::Drawing::Color::White;
223 this->B3->Location = System::Drawing::Point(539, 316);
224 this->B3->Name = L"B3";
225 this->B3->Size = System::Drawing::Size(85, 35);
226 this->B3->TabIndex = 59;
227 this->B3->Text = L"B3";
228 this->B3->UseVisualStyleBackColor = false;
229 this->B3->Click += gcnew System::EventHandler(this, &SCalc::B3_Click);
230 //
231 // B4
232 //
233 this->B4->Anchor = System::Windows::Forms::AnchorStyles::None;
234 this->B4->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
235 static_cast<System::Int32>(static_cast<System::Byte>(64)));
236 this->B4->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
237 static_cast<System::Byte>(0)));
238 this->B4->ForeColor = System::Drawing::Color::White;
239 this->B4->Location = System::Drawing::Point(357, 357);
240 this->B4->Name = L"B4";
241 this->B4->Size = System::Drawing::Size(85, 35);
242 this->B4->TabIndex = 60;
243 this->B4->Text = L"B4";
244 this->B4->UseVisualStyleBackColor = false;
245 this->B4->Click += gcnew System::EventHandler(this, &SCalc::B4_Click);
246 //
247 // B5
248 //
249 this->B5->Anchor = System::Windows::Forms::AnchorStyles::None;
250 this->B5->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
251 static_cast<System::Int32>(static_cast<System::Byte>(64)));
252 this->B5->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
253 static_cast<System::Byte>(0)));
254 this->B5->ForeColor = System::Drawing::Color::White;
255 this->B5->Location = System::Drawing::Point(448, 357);
256 this->B5->Name = L"B5";
257 this->B5->Size = System::Drawing::Size(85, 35);
258 this->B5->TabIndex = 61;
259 this->B5->Text = L"B5";
260 this->B5->UseVisualStyleBackColor = false;
80 % No issues found
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
260 this->B5->UseVisualStyleBackColor = false;
261 this->B5->Click += gcnew System::EventHandler(this, &SCalc::B5_Click);
262 //
263 // B6
264 //
265 this->B6->Anchor = System::Windows::Forms::AnchorStyles::None;
266 this->B6->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
267 static_cast<System::Int32>(static_cast<System::Byte>(64)));
268 this->B6->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
269 static_cast<System::Byte>(0)));
270 this->B6->ForeColor = System::Drawing::Color::White;
271 this->B6->Location = System::Drawing::Point(539, 357);
272 this->B6->Name = L"B6";
273 this->B6->Size = System::Drawing::Size(85, 35);
274 this->B6->TabIndex = 62;
275 this->B6->Text = L"B6";
276 this->B6->UseVisualStyleBackColor = false;
277 this->B6->Click += gcnew System::EventHandler(this, &SCalc::B6_Click);
278 //
279 // B7
280 //
281 this->B7->Anchor = System::Windows::Forms::AnchorStyles::None;
282 this->B7->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
283 static_cast<System::Int32>(static_cast<System::Byte>(64)));
284 this->B7->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
285 static_cast<System::Byte>(0)));
286 this->B7->ForeColor = System::Drawing::Color::White;
287 this->B7->Location = System::Drawing::Point(357, 398);
288 this->B7->Name = L"B7";
289 this->B7->Size = System::Drawing::Size(85, 35);
290 this->B7->TabIndex = 63;
291 this->B7->Text = L"B7";
292 this->B7->UseVisualStyleBackColor = false;
293 this->B7->Click += gcnew System::EventHandler(this, &SCalc::B7_Click);
294 //
295 // B8
296 //
297 this->B8->Anchor = System::Windows::Forms::AnchorStyles::None;
298 this->B8->BackColor = System::Drawing::Color::FromArgb(static_cast<System::Int32>(static_cast<System::Byte>(64)), static_cast<System::Int32>(static_cast<System::Byte>(64)),
299 static_cast<System::Int32>(static_cast<System::Byte>(64)));
300 this->B8->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75f, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
301 static_cast<System::Byte>(0)));
302 this->B8->ForeColor = System::Drawing::Color::White;
303 this->B8->Location = System::Drawing::Point(448, 398);
80 % No issues found
```



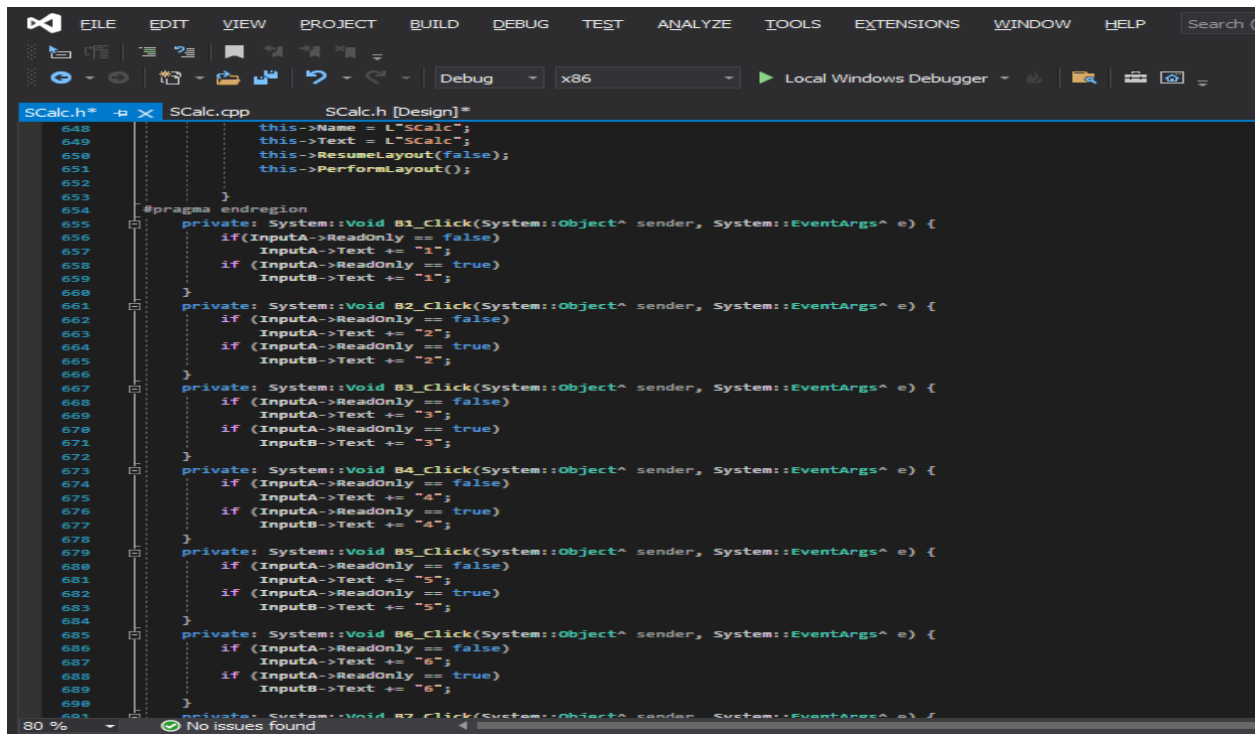
```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
475 static_cast<System::Int32>(static_cast<System::Byte>(64)));
476 this->Mod->Font = (gcnew System::Drawing::Font(L"Tahoma", 9.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
477 static_cast<System::Byte>(0)));
478 this->Mod->ForeColor = System::Drawing::Color::White;
479 this->Mod->Location = System::Drawing::Point(539, 275);
480 this->Mod->Name = L"Mod";
481 this->Mod->Size = System::Drawing::Size(85, 35);
482 this->Mod->TabIndex = 75;
483 this->Mod->Text = L"A";
484 this->Mod->UseVisualStyleBackColor = false;
485 this->Mod->Click += gcnew System::EventHandler(this, &SCalc::Mod_Click);
486 //
487 // InputA
488 //
489 this->InputA->Anchor = System::Windows::Forms::AnchorStyles::None;
490 this->InputA->BackColor = System::Drawing::Color::WhiteSmoke;
491 this->InputA->Font = (gcnew System::Drawing::Font(L"Tahoma", 20.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
492 static_cast<System::Byte>(0)));
493 this->InputA->Location = System::Drawing::Point(58, 147);
494 this->InputA->Multiline = true;
495 this->InputA->Name = L"InputA";
496 this->InputA->Size = System::Drawing::Size(459, 41);
497 this->InputA->TabIndex = 76;
498 this->InputA->TextChanged += gcnew System::EventHandler(this, &SCalc::InputA_TextChanged);
499 //
500 // InputB
501 //
502 this->InputB->Anchor = System::Windows::Forms::AnchorStyles::None;
503 this->InputB->BackColor = System::Drawing::Color::WhiteSmoke;
504 this->InputB->Font = (gcnew System::Drawing::Font(L"Tahoma", 20.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
505 static_cast<System::Byte>(0)));
506 this->InputB->ImeMode = System::Windows::Forms::ImeMode::NoControl;
507 this->InputB->Location = System::Drawing::Point(58, 227);
508 this->InputB->Multiline = true;
509 this->InputB->Name = L"InputB";
510 this->InputB->Size = System::Drawing::Size(459, 42);
511 this->InputB->TabIndex = 77;
512 this->InputB->TextChanged += gcnew System::EventHandler(this, &SCalc::InputB_TextChanged);
513 //
514 // Res
515 //
516 this->Res->Anchor = System::Windows::Forms::AnchorStyles::None;
517 this->Res->BackColor = System::Drawing::Color::WhiteSmoke;
518 this->Res->Font = (gcnew System::Drawing::Font(L"Tahoma", 20.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
80 % No issues found
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
519 this->Res->Font = (gcnew System::Drawing::Font(L"Tahoma", 20.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
520 static_cast<System::Byte>(0)));
521 this->Res->Location = System::Drawing::Point(571, 176);
522 this->Res->Multiline = true;
523 this->Res->Name = L"Res";
524 this->Res->Size = System::Drawing::Size(459, 50);
525 this->Res->TabIndex = 78;
526 this->Res->TextChanged += gcnew System::EventHandler(this, &SCalc::Res_TextChanged_1);
527 //
528 // Sign
529 //
530 this->Sign->Anchor = System::Windows::Forms::AnchorStyles::None;
531 this->Sign->Font = (gcnew System::Drawing::Font(L"Tahoma", 14.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
532 static_cast<System::Byte>(0)));
533 this->Sign->Location = System::Drawing::Point(523, 176);
534 this->Sign->Name = L"Sign";
535 this->Sign->Size = System::Drawing::Size(42, 50);
536 this->Sign->TabIndex = 79;
537 this->Sign->Text = L"";
538 this->Sign->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
539 //
540 // Op
541 //
542 this->Op->Anchor = System::Windows::Forms::AnchorStyles::None;
543 this->Op->Font = (gcnew System::Drawing::Font(L"Tahoma", 15.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
544 static_cast<System::Byte>(0)));
545 this->Op->Location = System::Drawing::Point(256, 192);
546 this->Op->Name = L"Op";
547 this->Op->Size = System::Drawing::Size(55, 33);
548 this->Op->TabIndex = 80;
549 this->Op->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
550 //
551 // label1
552 //
553 this->label1->Anchor = System::Windows::Forms::AnchorStyles::None;
554 this->label1->Font = (gcnew System::Drawing::Font(L"Tahoma", 14.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
555 static_cast<System::Byte>(0)));
556 this->label1->Location = System::Drawing::Point(18, 140);
557 this->label1->Name = L"label1";
558 this->label1->Size = System::Drawing::Size(42, 50);
559 this->label1->TabIndex = 81;
560 this->label1->Text = L"A";
561 this->label1->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
80 % No issues found
```



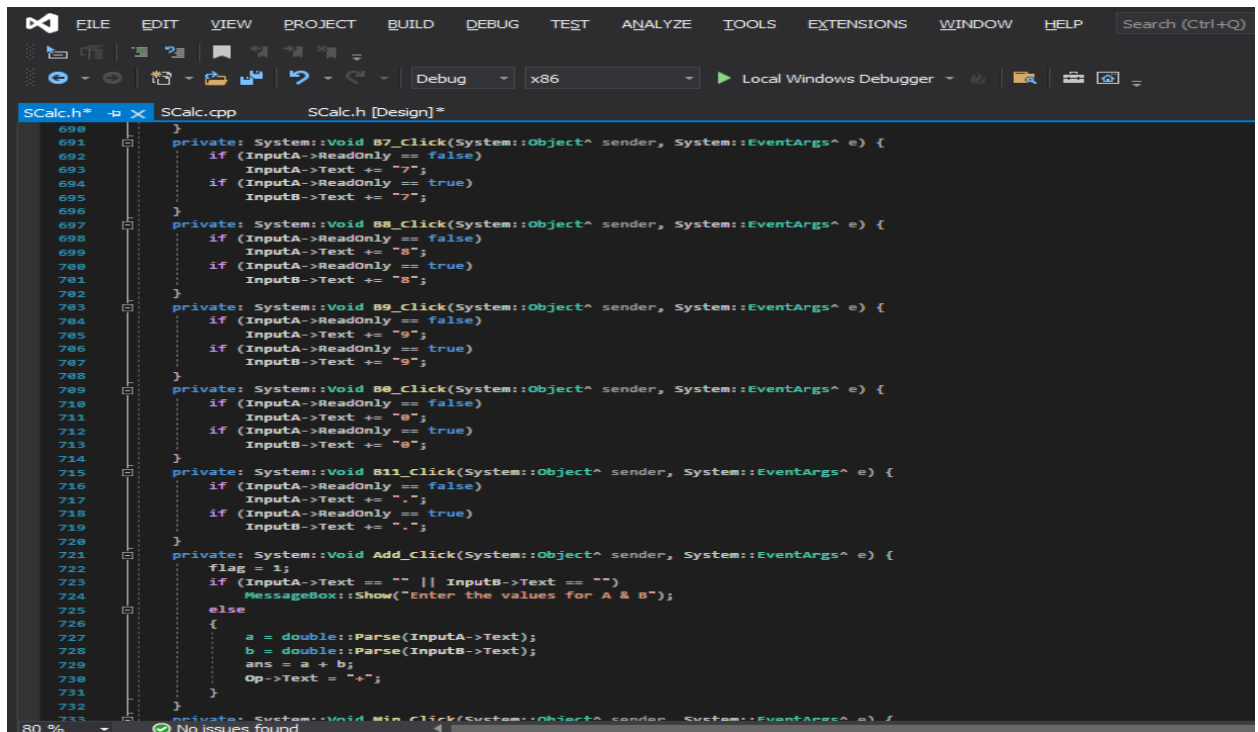
```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search (Ctrl+Q) SCad
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
562 // label3
563 //
564 this->label3->Anchor = System::Windows::Forms::AnchorStyles::None;
565 this->label3->Font = (gcnew System::Drawing::Font(L"Tahoma", 14.25F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
566 static_cast<System::Byte>(0)));
567 this->label3->Location = System::Drawing::Point(10, 220);
568 this->label3->Name = L"label3";
569 this->label3->Size = System::Drawing::Size(42, 58);
570 this->label3->TabIndex = 82;
571 this->label3->Text = L"B";
572 this->label3->TextAlign = System::Drawing::ContentAlignment::MiddleCenter;
573 //
574 // Accept
575 //
576 this->Accept->Anchor = System::Windows::Forms::AnchorStyles::None;
577 this->Accept->BackColor = System::Drawing::Color::Transparent;
578 this->Accept->BackgroundImageLayout = System::Windows::Forms::ImageLayout::None;
579 this->Accept->FlatAppearance->BorderSize = 0;
580 this->Accept->FlatStyle = System::Windows::Forms::FlatStyle::Flat;
581 this->Accept->Font = (gcnew System::Drawing::Font(L"Wingdings", 15.75F, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
582 static_cast<System::Byte>(2)));
583 this->Accept->ForeColor = System::Drawing::Color::Gainsboro;
584 this->Accept->Location = System::Drawing::Point(523, 147);
585 this->Accept->Name = L"Accept";
586 this->Accept->Size = System::Drawing::Size(23, 35);
587 this->Accept->TabIndex = 83;
588 this->Accept->Text = L"B";
589 this->Accept->UseVisualStyleBackColor = false;
590 this->Accept->Click += gcnew System::EventHandler(this, &SCalc::Accept_Click);
591 //
592 // Reject
593 //
594 this->Reject->Anchor = System::Windows::Forms::AnchorStyles::None;
595 this->Reject->BackColor = System::Drawing::Color::Transparent;
596 this->Reject->BackgroundImageLayout = System::Windows::Forms::ImageLayout::None;
597 this->Reject->FlatAppearance->BorderSize = 0;
598 this->Reject->FlatStyle = System::Windows::Forms::FlatStyle::Flat;
599 this->Reject->Font = (gcnew System::Drawing::Font(L"Wingdings", 18, System::Drawing::FontStyle::Regular, System::Drawing::GraphicsUnit::Point,
600 static_cast<System::Byte>(2)));
601 this->Reject->ForeColor = System::Drawing::Color::DarkGreen;
602 this->Reject->Location = System::Drawing::Point(542, 147);
603 this->Reject->Name = L"Reject";
604 this->Reject->Size = System::Drawing::Size(23, 35);
605 this->Reject->TabIndex = 84;
```

```
FILE EDIT VIEW PROJECT BUILD DEBUG TEST ANALYZE TOOLS EXTENSIONS WINDOW HELP Search
Debug x86 Local Windows Debugger
SCalc.h* SCalc.cpp SCalc.h [Design]*
605 this->Reject->TabIndex = 84;
606 this->Reject->Text = L"B";
607 this->Reject->UseVisualStyleBackColor = false;
608 this->Reject->Click += gcnew System::EventHandler(this, &SCalc::Reject_Click);
609 //
610 // SCalc
611 //
612 this->AutoScaleDimensions = System::Drawing::SizeF(6, 13);
613 this->AutoScaleMode = System::Windows::Forms::AutoScaleMode::Font;
614 this->BackColor = System::Drawing::Color::DarkGray;
615 this->ClientSize = System::Drawing::Size(1059, 515);
616 this->Controls->Add(this->Reject);
617 this->Controls->Add(this->Accept);
618 this->Controls->Add(this->label3);
619 this->Controls->Add(this->label1);
620 this->Controls->Add(this->Op);
621 this->Controls->Add(this->Sign);
622 this->Controls->Add(this->Res);
623 this->Controls->Add(this->InputB);
624 this->Controls->Add(this->InputA);
625 this->Controls->Add(this->Mod);
626 this->Controls->Add(this->Root);
627 this->Controls->Add(this->del);
628 this->Controls->Add(this->Div);
629 this->Controls->Add(this->Eq);
630 this->Controls->Add(this->Add);
631 this->Controls->Add(this->Min);
632 this->Controls->Add(this->Mul);
633 this->Controls->Add(this->B11);
634 this->Controls->Add(this->B0);
635 this->Controls->Add(this->B9);
636 this->Controls->Add(this->B8);
637 this->Controls->Add(this->B7);
638 this->Controls->Add(this->B6);
639 this->Controls->Add(this->B5);
640 this->Controls->Add(this->B4);
641 this->Controls->Add(this->B3);
642 this->Controls->Add(this->B2);
643 this->Controls->Add(this->B1);
644 this->Controls->Add(this->Label2);
645 this->Controls->Add(this->FromIntro);
646 this->Controls->Add(this->TitleBar);
647 this->MinimumSize = System::Drawing::Size(1075, 550);
648 this->Name = L"SCalc";
```



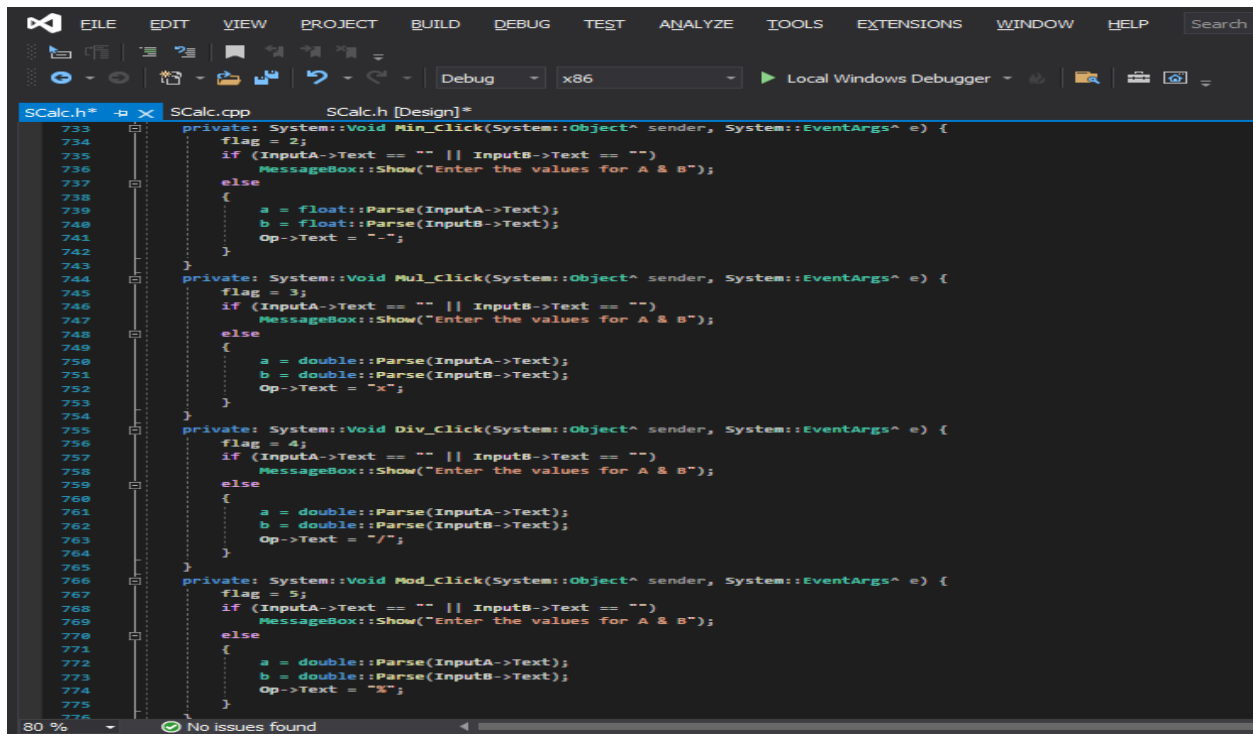
Visual Studio interface showing the SCalc.cpp file. The code defines click event handlers for buttons B1 through B6. Each handler checks if InputA is read-only and updates the text of InputA and InputB accordingly.

```
648 this->Name = L"SCalc";
649 this->Text = L"SCalc";
650 this->ResumeLayout(false);
651 this->PerformLayout();
652
653 }
654 #pragma endregion
655 private: System::Void B1_Click(System::Object^ sender, System::EventArgs^ e) {
656     if (InputA->ReadOnly == false)
657         InputA->Text += "1";
658     if (InputA->ReadOnly == true)
659         InputB->Text += "1";
660 }
661 private: System::Void B2_Click(System::Object^ sender, System::EventArgs^ e) {
662     if (InputA->ReadOnly == false)
663         InputA->Text += "2";
664     if (InputA->ReadOnly == true)
665         InputB->Text += "2";
666 }
667 private: System::Void B3_Click(System::Object^ sender, System::EventArgs^ e) {
668     if (InputA->ReadOnly == false)
669         InputA->Text += "3";
670     if (InputA->ReadOnly == true)
671         InputB->Text += "3";
672 }
673 private: System::Void B4_Click(System::Object^ sender, System::EventArgs^ e) {
674     if (InputA->ReadOnly == false)
675         InputA->Text += "4";
676     if (InputA->ReadOnly == true)
677         InputB->Text += "4";
678 }
679 private: System::Void B5_Click(System::Object^ sender, System::EventArgs^ e) {
680     if (InputA->ReadOnly == false)
681         InputA->Text += "5";
682     if (InputA->ReadOnly == true)
683         InputB->Text += "5";
684 }
685 private: System::Void B6_Click(System::Object^ sender, System::EventArgs^ e) {
686     if (InputA->ReadOnly == false)
687         InputA->Text += "6";
688     if (InputA->ReadOnly == true)
689         InputB->Text += "6";
690 }
691 private: System::Void B7_Click(System::Object^ sender, System::EventArgs^ e) {
```

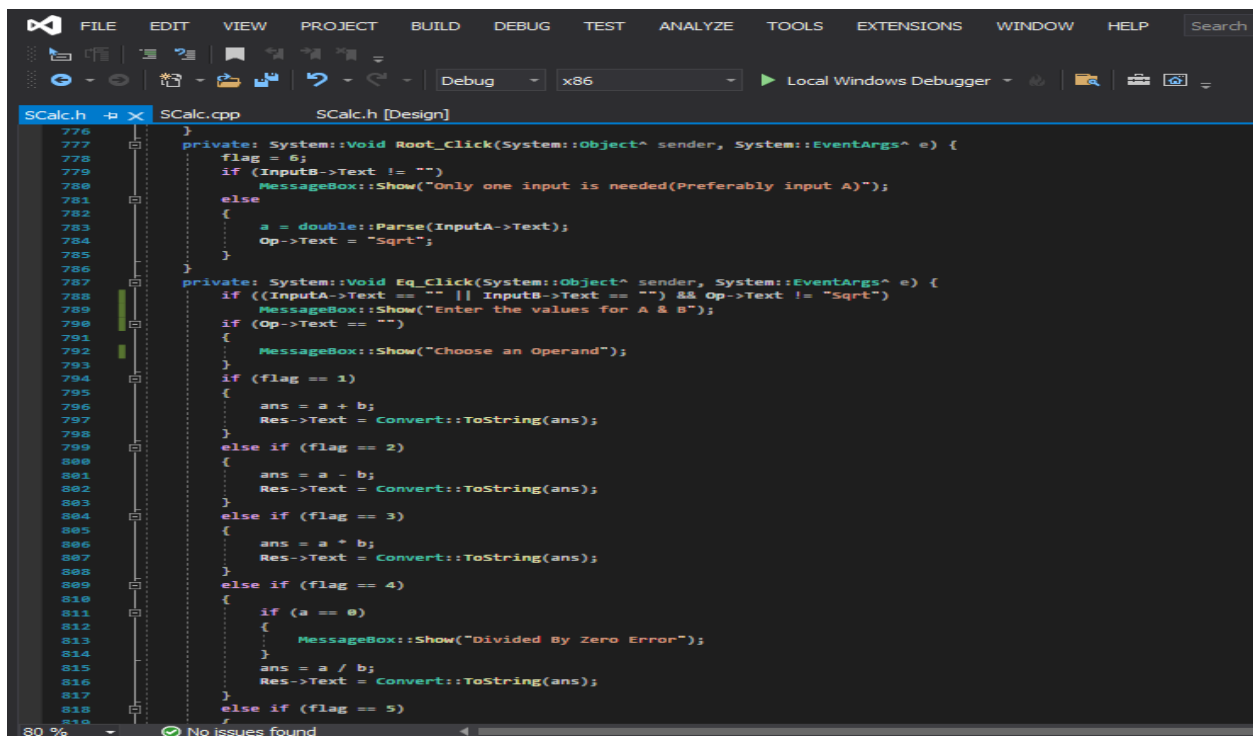


Visual Studio interface showing the SCalc.cpp file. The code defines click event handlers for buttons B7 through B11 and an Add button. The Add button handler calculates the sum of the values in InputA and InputB and displays it in Op.

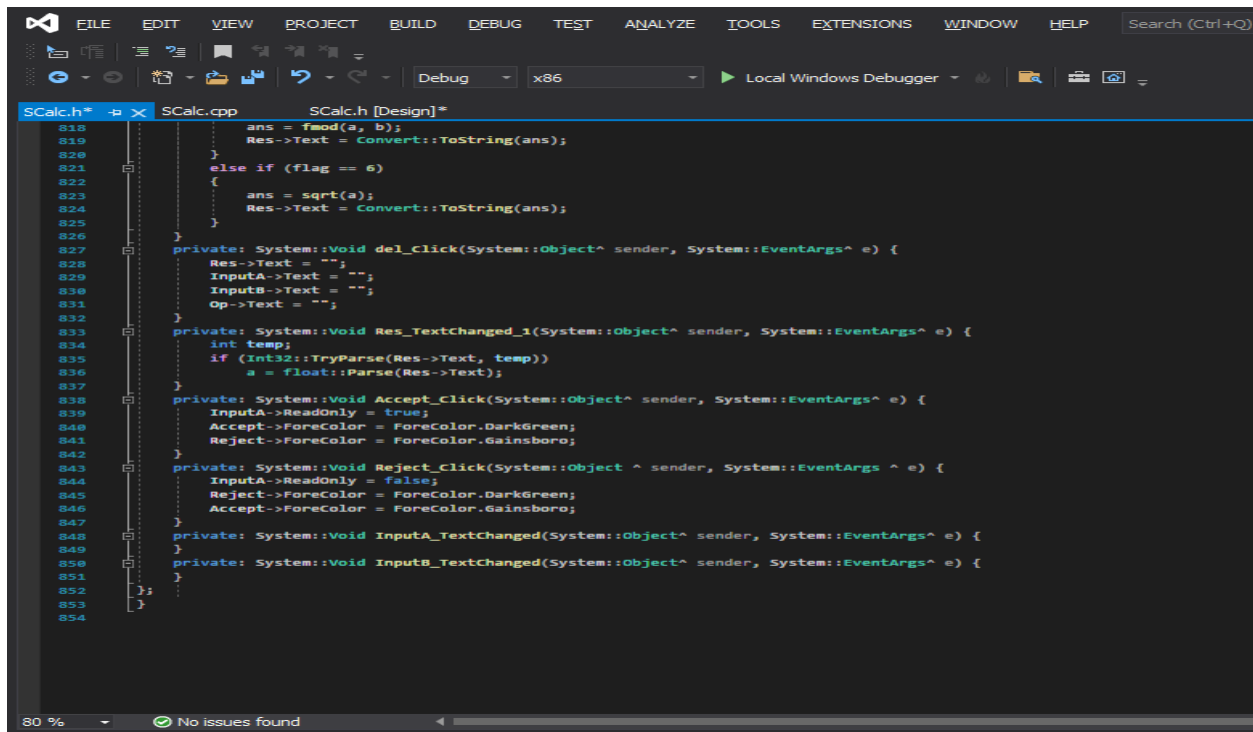
```
690 }
691 private: System::Void B7_Click(System::Object^ sender, System::EventArgs^ e) {
692     if (InputA->ReadOnly == false)
693         InputA->Text += "7";
694     if (InputA->ReadOnly == true)
695         InputB->Text += "7";
696 }
697 private: System::Void B8_Click(System::Object^ sender, System::EventArgs^ e) {
698     if (InputA->ReadOnly == false)
699         InputA->Text += "8";
700     if (InputA->ReadOnly == true)
701         InputB->Text += "8";
702 }
703 private: System::Void B9_Click(System::Object^ sender, System::EventArgs^ e) {
704     if (InputA->ReadOnly == false)
705         InputA->Text += "9";
706     if (InputA->ReadOnly == true)
707         InputB->Text += "9";
708 }
709 private: System::Void B10_Click(System::Object^ sender, System::EventArgs^ e) {
710     if (InputA->ReadOnly == false)
711         InputA->Text += "0";
712     if (InputA->ReadOnly == true)
713         InputB->Text += "0";
714 }
715 private: System::Void B11_Click(System::Object^ sender, System::EventArgs^ e) {
716     if (InputA->ReadOnly == false)
717         InputA->Text += ".";
718     if (InputA->ReadOnly == true)
719         InputB->Text += ".";
720 }
721 private: System::Void Add_Click(System::Object^ sender, System::EventArgs^ e) {
722     flag = 1;
723     if (InputA->Text == "" || InputB->Text == "")
724         MessageBox::Show("Enter the values for A & B");
725     else
726     {
727         a = double::Parse(InputA->Text);
728         b = double::Parse(InputB->Text);
729         ans = a + b;
730         Op->Text = "+";
731     }
732 }
733 private: System::Void Min_Click(System::Object^ sender, System::EventArgs^ e) {
```



```
733 private: System::Void Min_Click(System::Object^ sender, System::EventArgs^ e) {
734     flag = 2;
735     if (InputA->Text == "" || InputB->Text == "")
736         MessageBox::Show("Enter the values for A & B");
737     else
738     {
739         a = float::Parse(InputA->Text);
740         b = float::Parse(InputB->Text);
741         Op->Text = "-";
742     }
743 }
744 private: System::Void Mul_Click(System::Object^ sender, System::EventArgs^ e) {
745     flag = 3;
746     if (InputA->Text == "" || InputB->Text == "")
747         MessageBox::Show("Enter the values for A & B");
748     else
749     {
750         a = double::Parse(InputA->Text);
751         b = double::Parse(InputB->Text);
752         Op->Text = "x";
753     }
754 }
755 private: System::Void Div_Click(System::Object^ sender, System::EventArgs^ e) {
756     flag = 4;
757     if (InputA->Text == "" || InputB->Text == "")
758         MessageBox::Show("Enter the values for A & B");
759     else
760     {
761         a = double::Parse(InputA->Text);
762         b = double::Parse(InputB->Text);
763         Op->Text = "/";
764     }
765 }
766 private: System::Void Mod_Click(System::Object^ sender, System::EventArgs^ e) {
767     flag = 5;
768     if (InputA->Text == "" || InputB->Text == "")
769         MessageBox::Show("Enter the values for A & B");
770     else
771     {
772         a = double::Parse(InputA->Text);
773         b = double::Parse(InputB->Text);
774         Op->Text = "%";
775     }
776 }
```



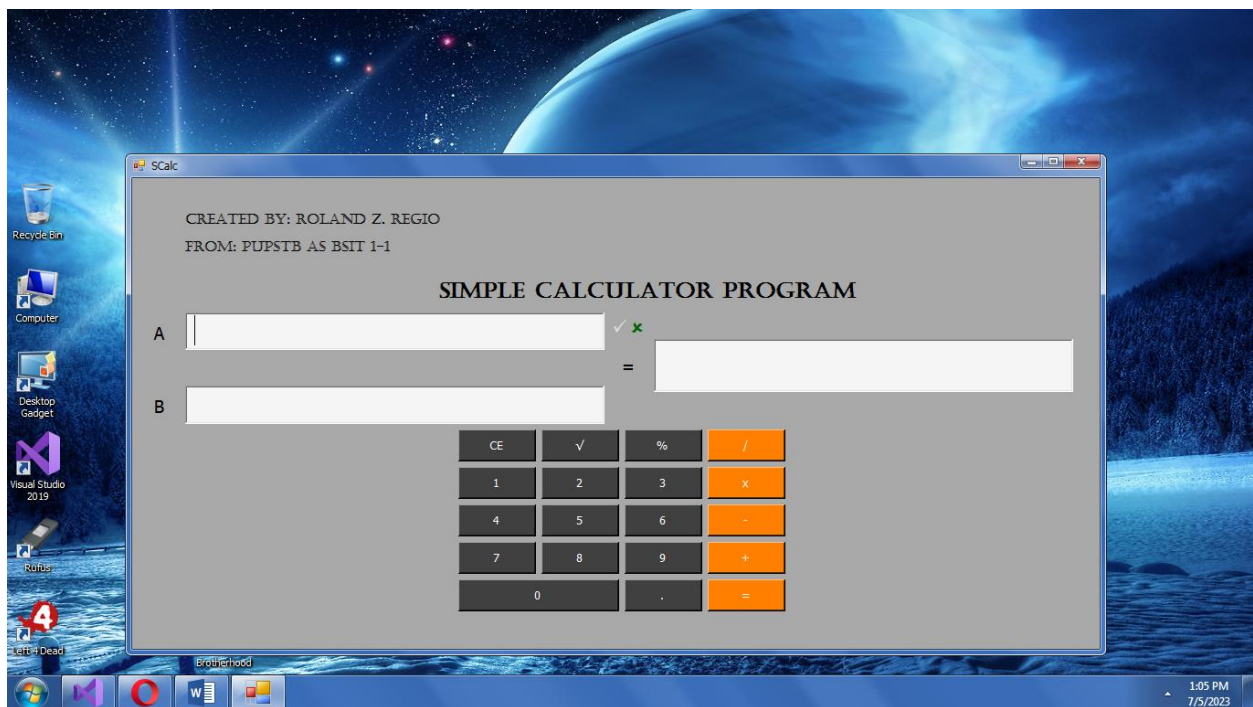
```
776 }
777 private: System::Void Root_Click(System::Object^ sender, System::EventArgs^ e) {
778     flag = 6;
779     if (InputB->Text != "")
780         MessageBox::Show("Only one input is needed(Preferably input A)");
781     else
782     {
783         a = double::Parse(InputA->Text);
784         Op->Text = "Sqrt";
785     }
786 }
787 private: System::Void Eq_Click(System::Object^ sender, System::EventArgs^ e) {
788     if ((InputA->Text == "" || InputB->Text == "") && Op->Text != "Sqrt")
789         MessageBox::Show("Enter the values for A & B");
790     if (Op->Text == "")
791         MessageBox::Show("Choose an Operand");
792     if (flag == 1)
793     {
794         ans = a + b;
795         Res->Text = Convert::ToString(ans);
796     }
797     else if (flag == 2)
798     {
799         ans = a - b;
800         Res->Text = Convert::ToString(ans);
801     }
802     else if (flag == 3)
803     {
804         ans = a * b;
805         Res->Text = Convert::ToString(ans);
806     }
807     else if (flag == 4)
808     {
809         if (a == 0)
810         {
811             MessageBox::Show("Divided By Zero Error");
812         }
813         ans = a / b;
814         Res->Text = Convert::ToString(ans);
815     }
816     else if (flag == 5)
817     {
818         Res->Text = Convert::ToString(a % b);
819     }
820 }
```



```
818     ans = fmod(a, b);
819     Res->Text = Convert::ToString(ans);
820 }
821 else if (flag == 6)
822 {
823     ans = sqrt(a);
824     Res->Text = Convert::ToString(ans);
825 }
826
827 private: System::Void del_Click(System::Object^ sender, System::EventArgs^ e) {
828     Res->Text = "";
829     InputA->Text = "";
830     InputB->Text = "";
831     Op->Text = "";
832 }
833 private: System::Void Res_TextChanged_1(System::Object^ sender, System::EventArgs^ e) {
834     int temp;
835     if (int32::TryParse(Res->Text, temp))
836         a = float::Parse(Res->Text);
837 }
838 private: System::Void Accept_Click(System::Object^ sender, System::EventArgs^ e) {
839     InputA->ReadOnly = true;
840     Accept->ForeColor = ForeColor.DarkGreen;
841     Reject->ForeColor = ForeColor.Gainsboro;
842 }
843 private: System::Void Reject_Click(System::Object^ sender, System::EventArgs^ e) {
844     InputA->ReadOnly = false;
845     Reject->ForeColor = ForeColor.DarkGreen;
846     Accept->ForeColor = ForeColor.Gainsboro;
847 }
848 private: System::Void InputA_TextChanged(System::Object^ sender, System::EventArgs^ e) {
849 }
850 private: System::Void InputB_TextChanged(System::Object^ sender, System::EventArgs^ e) {
851 }
852 }
853 }
854 }
```

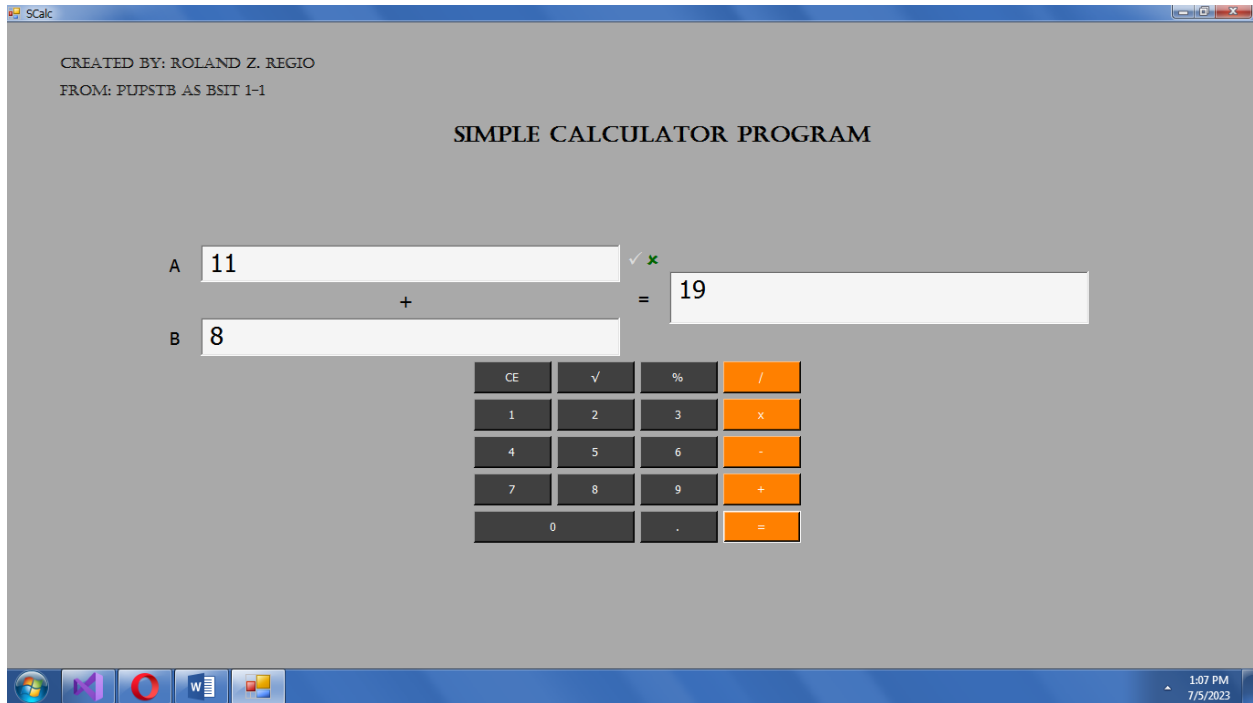
PROGRAM OUTPUT

Minimum size

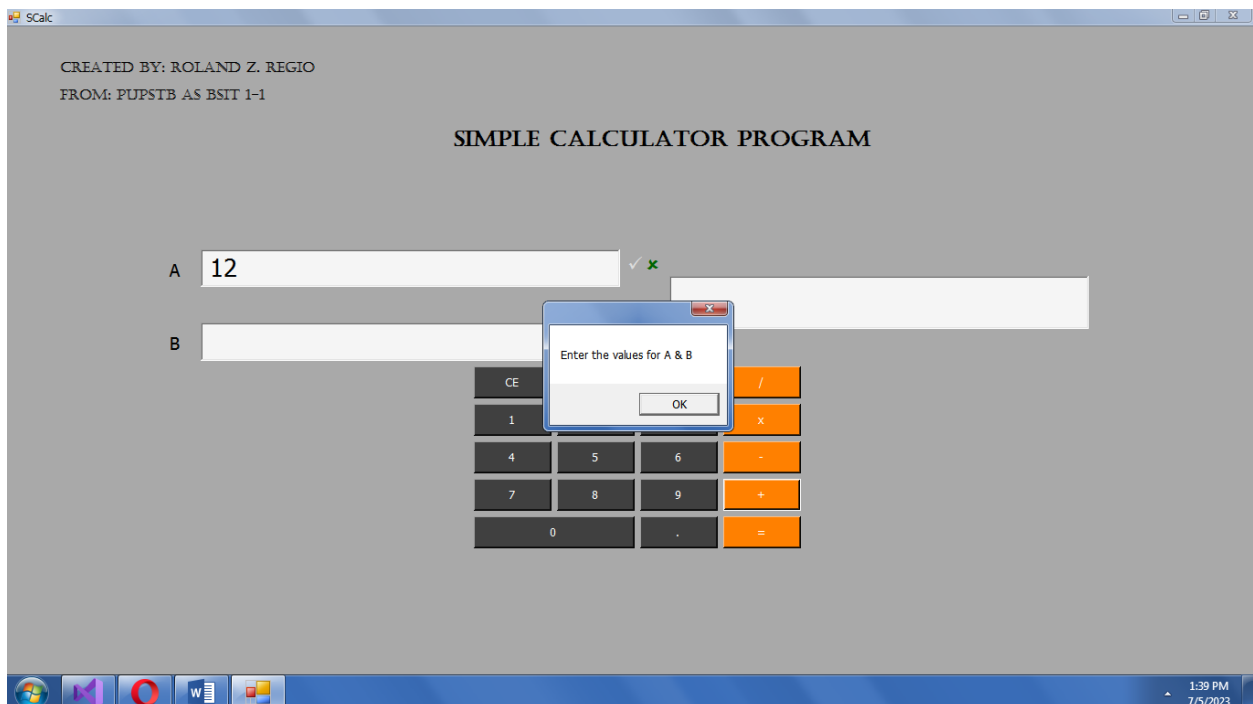


Maximum size & Addition Function [Add A and B][Addition Button]

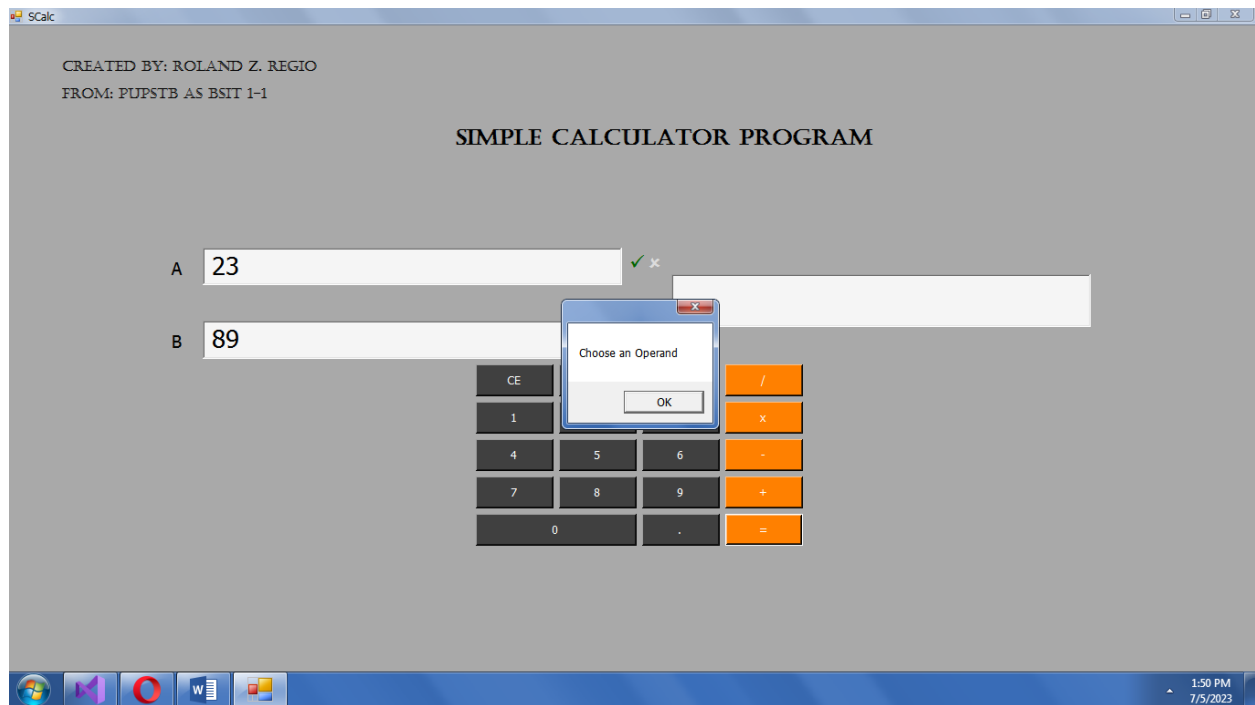
- Type input value for A & B.
- Click the Operand (Addition). Then, Click the Equal Button for Answer.



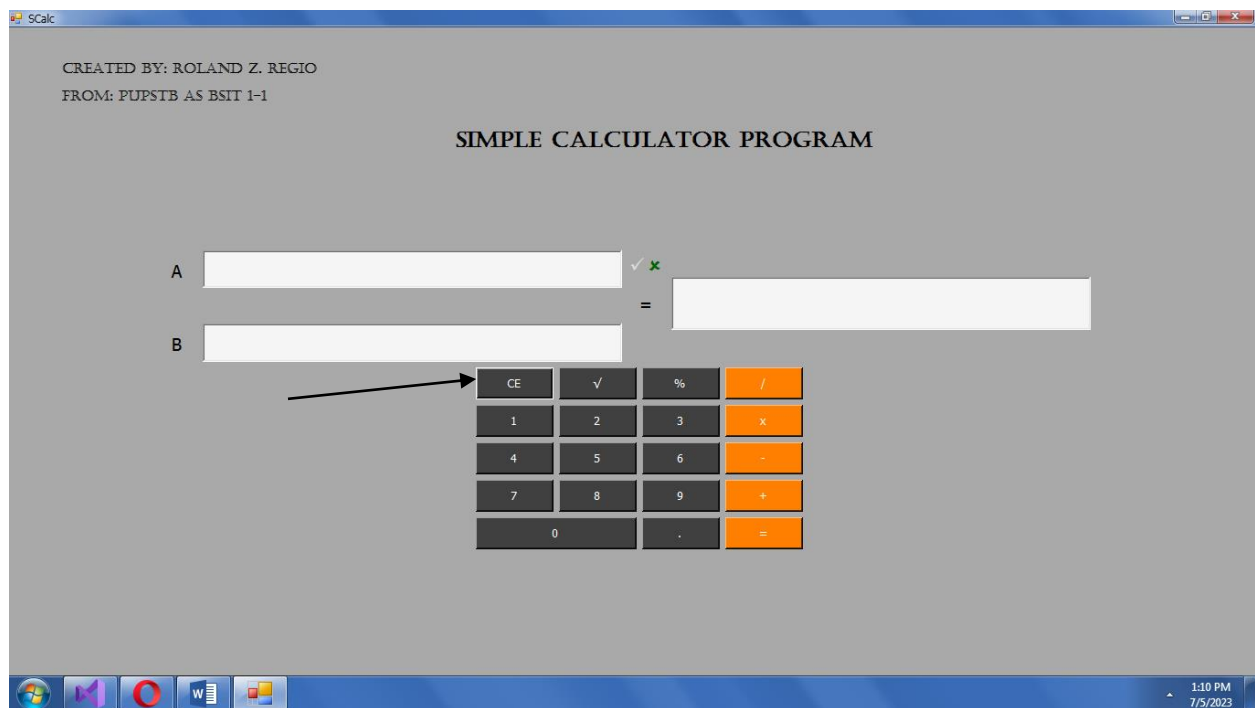
Operand Function Message Box [If user click an operand or equal button but one of A & B is empty except if Square Root function is clicked]



Equal Button Function Message Box [If user click Equal button without an Operand]

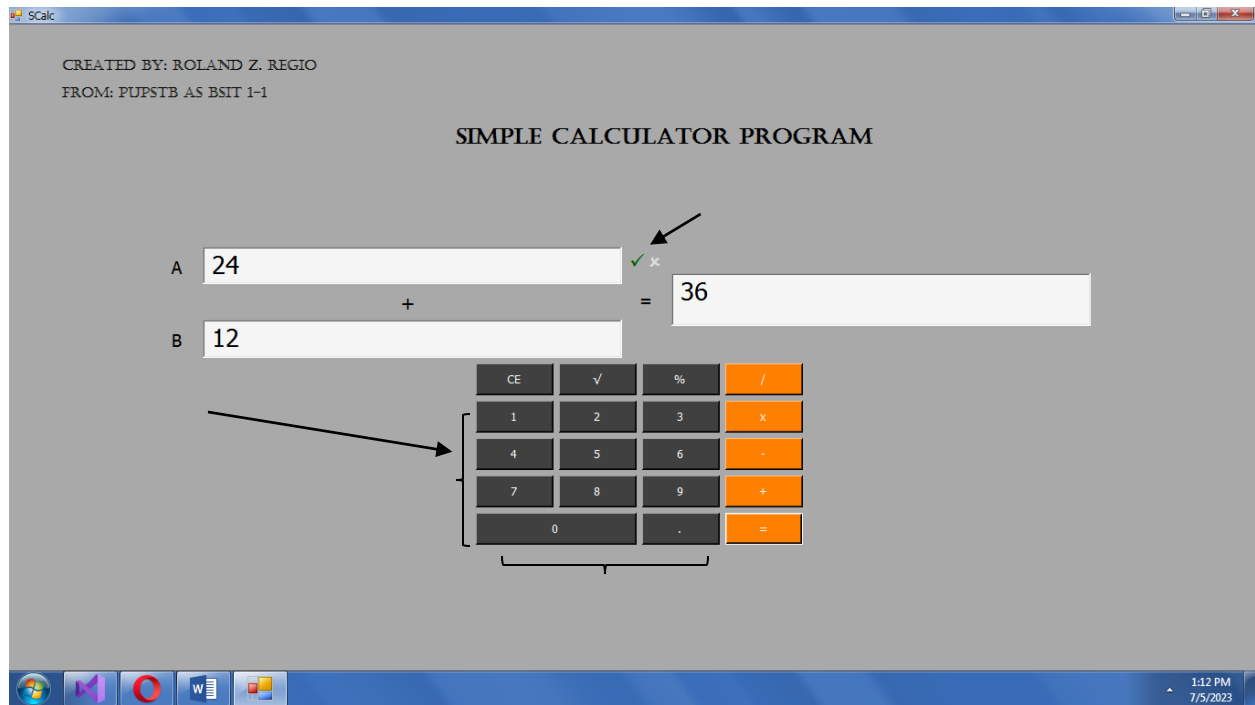


Clearing Entries Function [CE button] (Clear A, B, Operand Label & Answer)

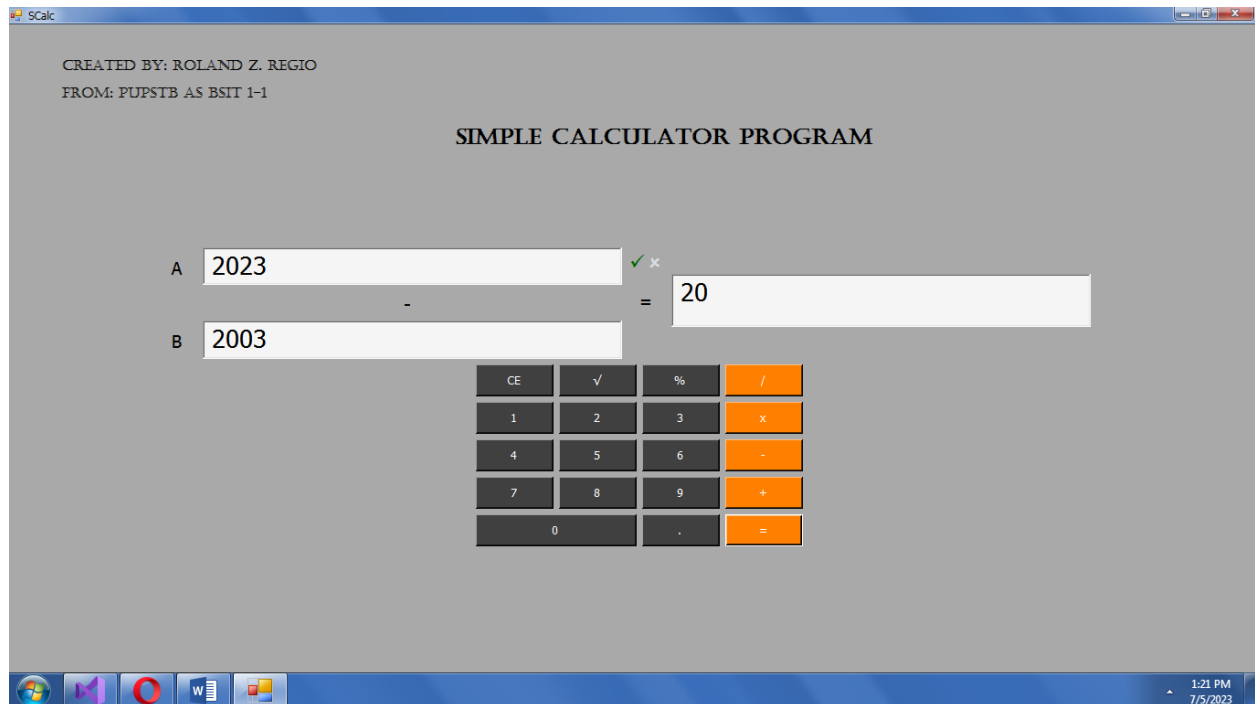


Using Numpad Function [0-9 & "." Buttons]

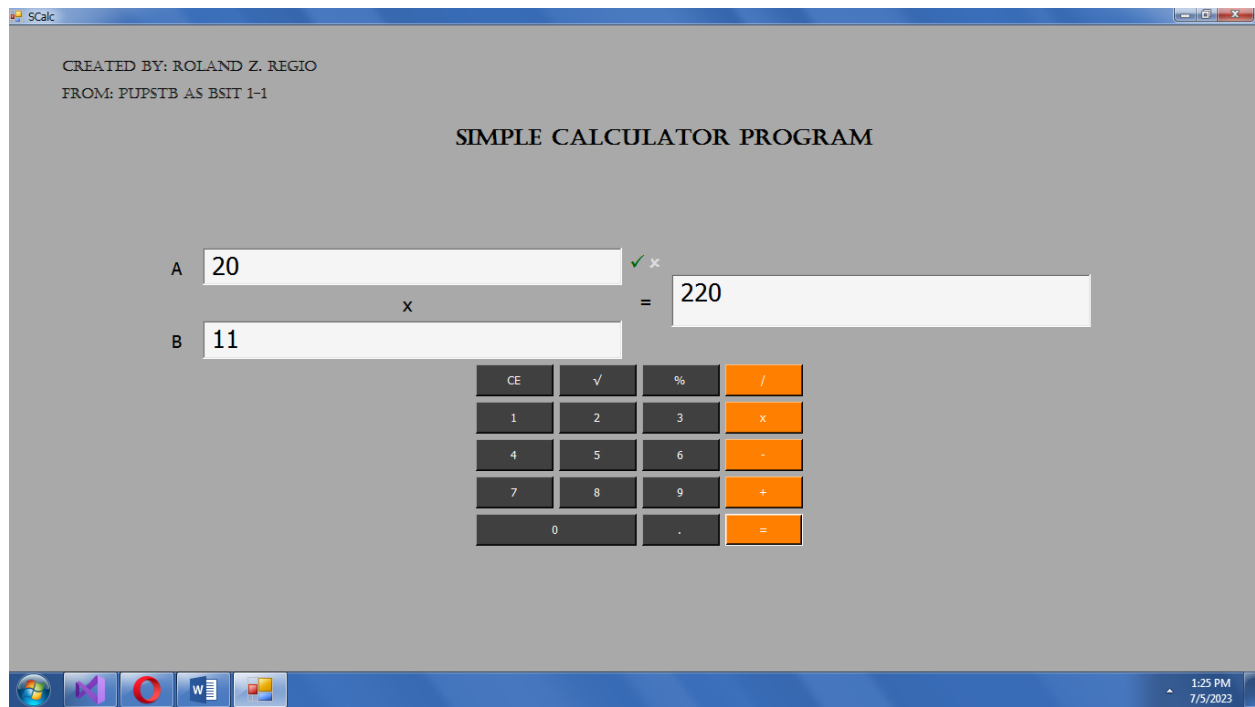
- (When \times is click) InputA is getting the Numpad input and \times turn green.
- (When \checkmark is click) InputB is getting the Numpad input and \checkmark turn green.



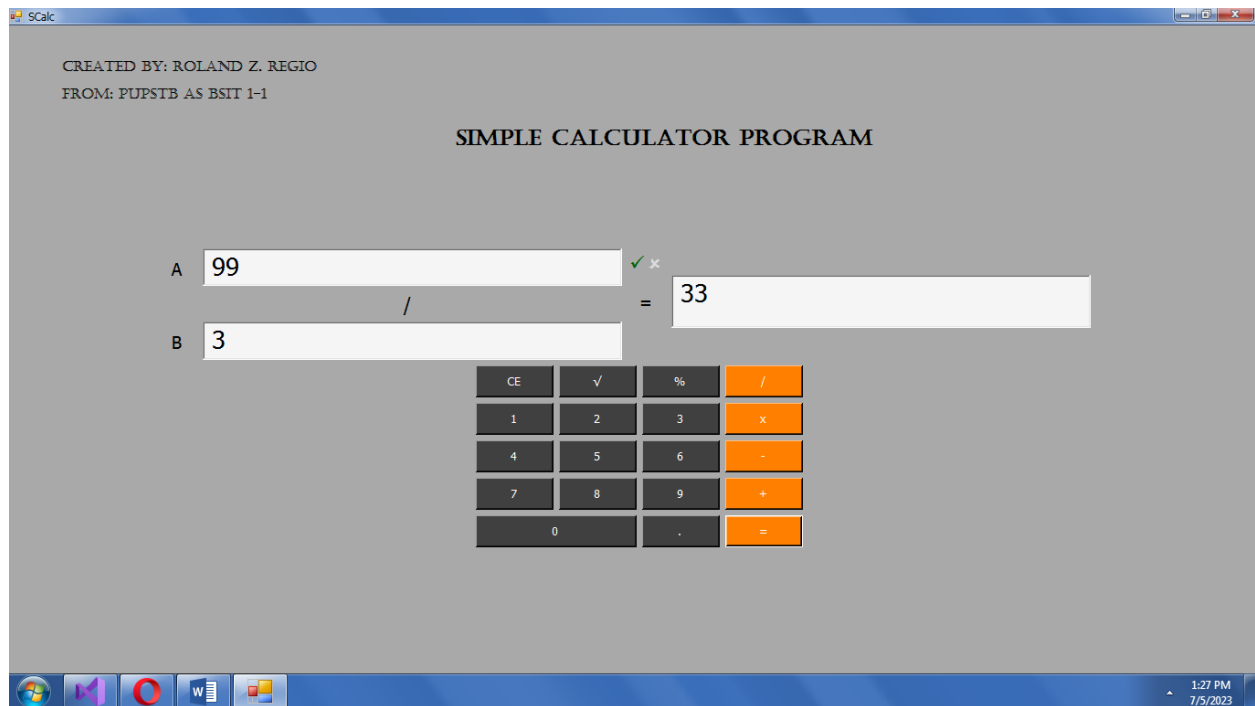
Subtraction Function [A – B][Subtraction Button]



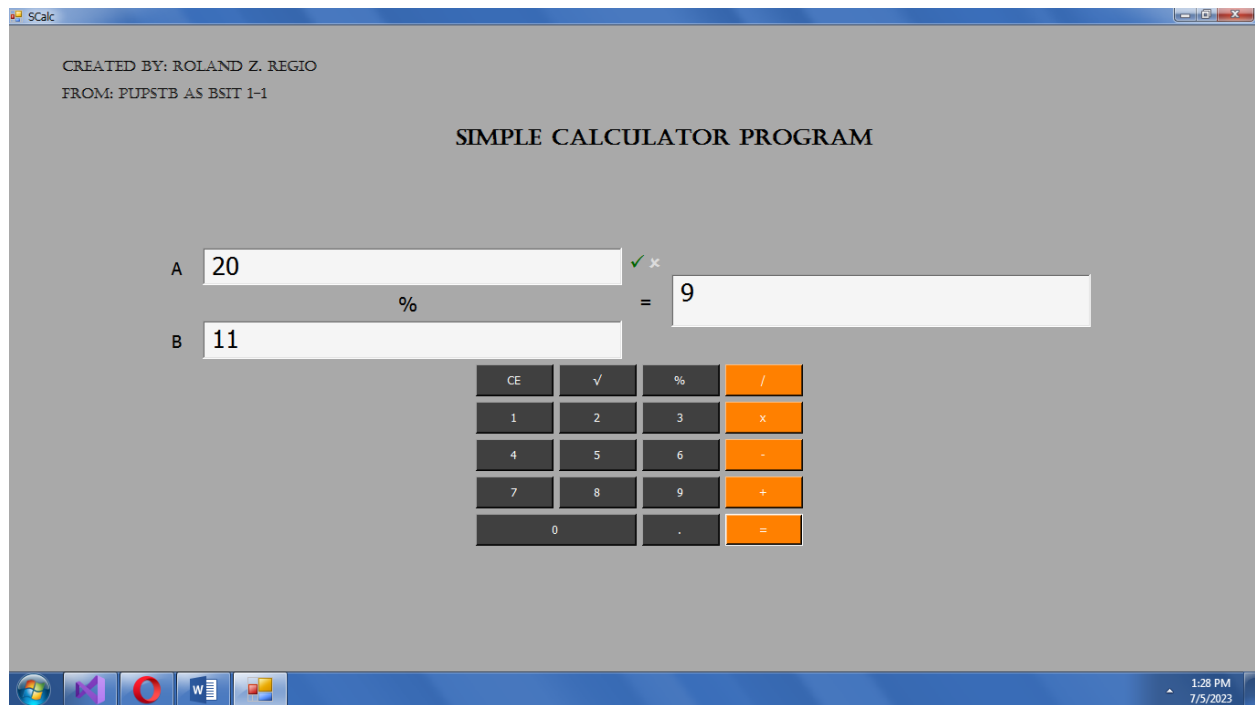
Multiplication Function [A * B][Multiplication Button]



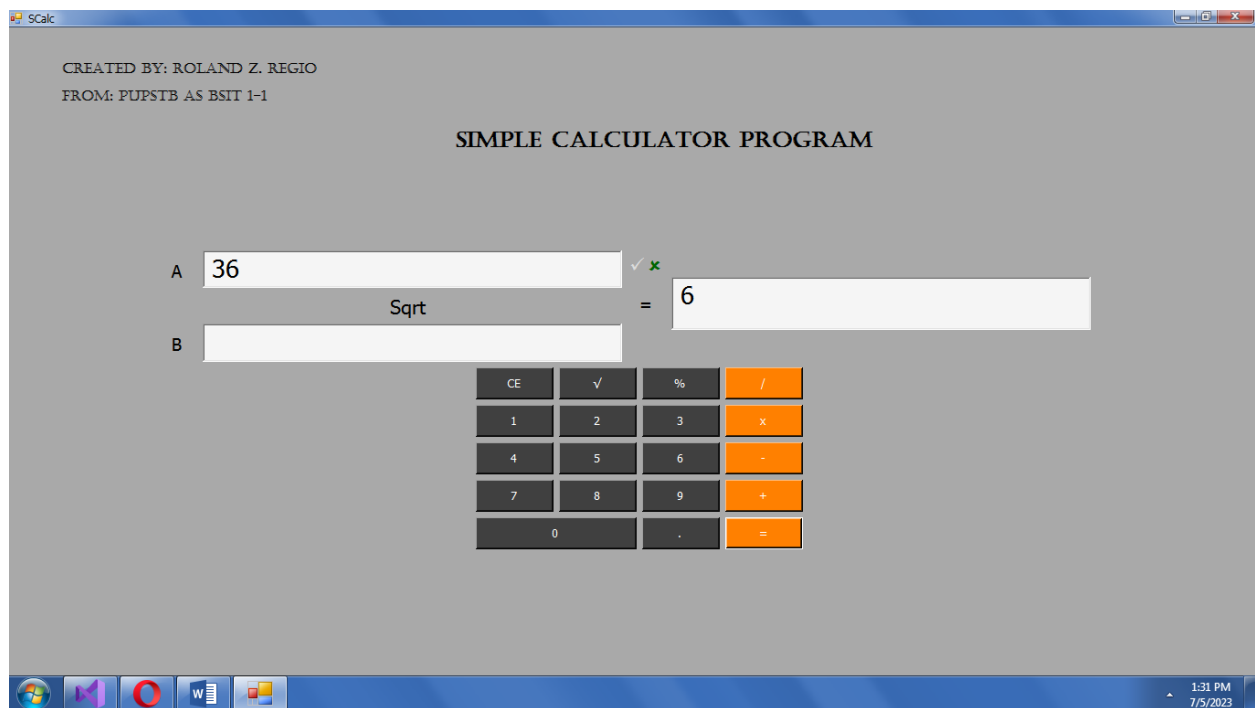
Division Function [A / B][Division Button]



Modulo Function [A % B][Modulo Button]



Square Root Function [\sqrt{A}][Square Root Button]



Square Root Function Message Box [If input comes from B and if input comes from both A & B]

