Chapter5 in class code
Task#1: Call by Value
Students will be writing a program that asks the user for the temperature outside in Fahrenheit,
and then converts the temperature to Celsius and prints out a message to the user displaying both
temperatures.

```
1    // Jose & Min
2    // 04-21-2021
3    // Call by Value
4    // Students will be writing a program that asks the user for the temperature outside in Fahr
5    // and then converts the temperature to Celsius and prints out a message to the user display
6
7    #include <iostream>
8    using namespace std;
9
10   double celsius(double);
11   void Printresults(double, double);
12
13   int main()
14   {
15       int temperature, result;
16       cout << "Please enter the temperature in Fahrenheit: ";
17       cin >> temperature;
18       result = celsius(temperature);
19       Printresults(result, temperature);
20       return(0);
21   }
22   double celsius(double temp)
23   {
24       int result;
25       result = (temp - 32) * 5/9;
26       return (result);
27   }
28   void Printresults(double result, double temp)
29   {
30       cout << "You entered: " << temp << " degrees Farh" << endl;
31       cout << "Your temperature in Celsius is " << result << " degrees." << endl;
32   }
```

```
revilla@Joses-MacBook-Pro Chapter5 % cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++ Chapter5Task
1.cpp -o Chapter5Task1 && "/Users/revilla/Desktop/C++ Projects/Chapter5/"Chapter5Task1
Please enter the temperature in Fahrenheit: 32
You entered: 32 degrees Farh
Your temperature in Celsius is 0 degrees.
revilla@Joses-MacBook-Pro Chapter5 %
```

```
cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++ Chapter5Task1.cpp -o Chapter5Task1 && "/Users/rev
illa/Desktop/C++ Projects/Chapter5/"Chapter5Task1
revilla@Joses-MacBook-Pro C++ Projects % cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++ Chapter5
Task1.cpp -o Chapter5Task1 && "/Users/revilla/Desktop/C++ Projects/Chapter5/"Chapter5Task1
Please enter the temperature in Fahrenheit: 50
You entered: 50 degrees Farh
Your temperature in Celsius is 10 degrees.
revilla@Joses-MacBook-Pro Chapter5 %
```

```
cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++ Chapter5Task1.cpp -o Chapter5Task1 && "/Users/rev
illa/Desktop/C++ Projects/Chapter5/"Chapter5Task1
revilla@Joses-MacBook-Pro C++ Projects % cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++ Chapter5
Task1.cpp -o Chapter5Task1 && "/Users/revilla/Desktop/C++ Projects/Chapter5/"Chapter5Task1
Please enter the temperature in Fahrenheit: 104
You entered: 104 degrees Farh
Your temperature in Celsius is 40 degrees.
revilla@Joses-MacBook-Pro Chapter5 %
```

Task #2: Call by Reference
Students will be implementing the code from our book that swaps two numbers.

```cpp
1   //Jose and Min
2   // 04-26-2021
3   //Task #2: Call by Reference
4   // Students will be implementing the code from our book that swaps two numbers.
5
6   #include <iostream>
7   using namespace std;
8
9   void getNum(int& num1, int& num2);
10  void swapnum(int& num1, int& num2);
11  void showresult(int num1, int num2);
12
13  int main()
14  {
15      int num1(0), num2(0);
16
17      getNum(num1, num2);
18      swapnum(num1, num2);
19      showresult(num1, num2);
20      return(0);
21  }
22  void getNum(int& num1, int& num2)
23  {
24      cout << "Enter two numbers: ";
25      cin >> num1 >> num2;
26  }
27  void swapnum(int& num1, int& num2)
28  {
29      int temp;
30      temp = num1;
31      num1 = num2;
32      num2 = temp;
33  }
34  void showresult(int num1, int num2)
35  {
36      cout << "The numbers you entered in reverse are: "
37          << num1 << " and " << num2 << endl;
```

```
revilla@Joses-MacBook-Pro Chapter5 % cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++
Chapter5task2.cpp -o Chapter5task2 && "/Users/revilla/Desktop/C++ Projects/Chapter5/"Chapter5ta
sk2
Enter two numbers: 50 60
The numbers you entered in reverse are: 60 and 50
revilla@Joses-MacBook-Pro Chapter5 % []
```

Task #3: Comparing Argument Mechanisms
Write a program with two functions, main() and doStuff()

```
1    // Jose & Min
2    // 04-26-2021
3    // Comparing Argument Mechanisms
4    // Write a program with two functions, main() and doStuff() In this program, you
5
6    #include <iostream>
7    using namespace std;
8
9    void doStuff(int par1Value, int& par2Ref);
10   int main()
11   {
12       int n1(1), n2(2);
13       doStuff(n1, n2);
14       cout << "n1 after function call = " << n1 << endl
15           << "n2 after function call = " << n2 << endl;
16       return(0);
17   }
18   void doStuff(int par1Value, int& par2Ref)
19   {
20       par1Value = 111;
21       cout << "par1Value in function call = " << par1Value << endl;
22       par2Ref = 222;
23       cout << "par2Ref in function call = " << par2Ref << endl;
24   }
```

```
revilla@Joses-MacBook-Pro Chapter5 % cd "/Users/revilla/Desktop/C++ Projects/Chapter5/" && g++
Chapter5Task3.cpp -o Chapter5Task3 && "/Users/revilla/Desktop/C++ Projects/Chapter5/"Chapter5Ta
sk3
par1Value in function call = 111
par2Ref in function call = 222
n1 after function call = 1
n2 after function call = 222
revilla@Joses-MacBook-Pro Chapter5 % []
```

Task #4 Debugging
Watch the debugging video that is in this module. Create a small Program in your ide to debug.
You can also pick any of your previous programs.

I ran into an issue. My computer runs on a new processor (Mac M1) and the debugger for Visual Studios Code does not work with the new processor yet. I was able to follow along with Sagar and Min for the Debugging process and wrote the code myself as well, but I was unable to get the debugging started due to incompatibility. I attached screenshots of the proof that it is not compatible as well as of my code with the breaks. I also tried to run an emulation in x64 but due to my computer being ARM it does not want to work :(

```
1    // Jose Revilla & Sagar
2    // April 28, 2021
3    // Debugging
4    // Watch the debugging video that is in this module. Create a small Program in your ide to debug. You can also pick any of your previous programs.
5
6    #include <iostream>
7    using namespace std;
8
9    int main()
10   {
11       int i(4), counter(0);
12       for (i=0; i<=5; i++)
13       {
14           counter++;
15           cout << "Result is " << counter << endl;
16       }
17       return(0);
18   }
```

PROBLEMS   OUTPUT   TERMINAL   DEBUG CONSOLE   Filter (e.g. text, !exclude)
Warning: Debuggee TargetArchitecture not detected, assuming x86_64.
ERROR: Unable to start debugging. Unexpected LLDB output from command "-exec-run". process exited with status -1 (attach failed ((os/kern) invalid argument))
The program '/Users/revilla/Desktop/C++ Projects/Chapter5/Chapter5task4' has exited with code 42 (0x0000002a).

@CarterGunale, @markfaction
The feature to support native debugging on Apple Silicon ARM64 has not been done yet. You can run the current debugger binaries built for Apple Intel x64 using the Rosetta emulator. Note that the debugger for Apple Intel x64 can only debug x86_64 binaries. Please see issue #7035.