# CSCI110 – Fundamentals of Computer Science
## MT SAC College
## CSCI110

Lab #: _____2A_____

Description: _____Problem 3.9 pg. 119_____

_____

_____

Due Date: _____TBD_____

Name: _____Brandon Wu_____

Grade: _____Freshman_____

Notes: _____Used mac terminal_____

```cpp
/*
Prolog
    a.   Program Description: Grade Letter Conversion
    b.   Author: Brandon Wu
    c.   Date: 06-28-22
    d.   Input variables: letter_grade
    e.   Process Flow: Operations, string manipulation, conditional statements
    f.   Output variables: score_sum
*/

#include <iostream>
#include <cmath>
#include <iomanip>
#include <list>

using namespace std;

int main()
{
    string letter_grade;
    int grade_number = 0;
    cout << "What is your grade: ";
    cin >> letter_grade;
    int len = letter_grade.length();
    int counter = 0;
    double score_sum = 0;
    while (counter <= len){
        string letter = letter_grade.substr(counter, 1);
        counter += 1;
        if (letter == "A"){
            score_sum += 4;
        }
        else if (letter == "B"){
            score_sum += 3;
        }
        else if (letter == "C"){
            score_sum += 2;
        }
        else if (letter == "D"){
            score_sum += 1;
```

```cpp
        }
        else if (letter == "F"){
            score_sum += 0;
        }
        else if (letter == "+"){
            score_sum += 0.3;
        }
        else if (letter == "-"){
            score_sum += -0.3;
        }
    }
    if (score_sum < 0.5){
        score_sum = 0;
    }
    else if (score_sum > 4){
        score_sum = 4;
    }
    cout << fixed << setprecision(1) << "Your number score is : " << score_sum << endl;
    return (0);
}
```

```
Brandons-Air-2:Project1 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: A+
Your number score is : 4.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: A
Your number score is : 4.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: A-
Your number score is : 3.7
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: B+
Your number score is : 3.3
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: B
Your number score is : 3.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: B-
Your number score is : 2.7
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: C+
Your number score is : 2.3
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: C
Your number score is : 2.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: C-
Your number score is : 1.7
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: F+
Your number score is : 0.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: F-
Your number score is : 0.0
Brandons-Air-2:Lab2 brandonwu$ cd "/Users/brandonwu/Project1/Lab2/" && g++ Lab2A.cpp -o Lab2A && "/Users/brandonwu/Project1/Lab2/"Lab2A
What is your grade: F
Your number score is : 0.0
Brandons-Air-2:Lab2 brandonwu$
```