**CIS3100**

**KARY HUANG**

**ASSIGNMENT #5**

**05/09/2016**

**INPUT**

//Kary Huang Assignment #5

#include <iostream>

#include <cmath>

#include <fstream>

#include <iomanip>

#include <string>

using namespace std;

float final\_grade(float[], int[]); //prototype for the student average function

int main()

{

ifstream a5in("C:\\Users\\kary\\Desktop\\CIS3100\\KaryHuangAssignment5\\a5in.txt");

ofstream a5out("a5out.txt");

string student\_first, student\_last, max\_first, max\_last, min\_first, min\_last;

float weights[4]; //the array for weights

int grade[8]; //the array for grades

int i, j, x, student\_id;

float min = 100.0, max = 0.0, student\_avg, sum = 0.0;

a5out << "First Name" << setw(3) << " " << "Last Name" << setw(3) << " " << "Student ID" << setw(3) << " " << "Final Grade" << endl; //column headings

for (i = 0; i < 4; i++) //read in weights into first array

{

a5in >> weights[i];

}

for (x = 1; x <= 15; x++) //read in 15 sets of student record

{

while (a5in >> student\_first) //if there is a student first name, then perform the following

{

a5in >> student\_last;

a5in >> student\_id;

a5out << left << setw(13) << student\_first << setw(12) << student\_last << setw(13) << student\_id;

for (j = 0; j < 4; j++) //read in grades into second array one student at a time

{

a5in >> grade[j];

}

student\_avg = final\_grade(weights, grade); //call the student average function

a5out << student\_avg << endl;

sum = sum + student\_avg;

if (student\_avg > max)

{

max = student\_avg;

max\_first = student\_first;

max\_last = student\_last;

}

if (student\_avg < min)

{

min = student\_avg;

min\_first = student\_first;

min\_last = student\_last;

}

}

}

a5out << "\nLowest grade in class: " << min\_first << " " << min\_last << " " << min << endl;

a5out << "Highest grade in class: " << max\_first << " " << max\_last << " " << max << endl;

a5out << "Class average: " << fixed << setprecision(2) << sum / 15.0 << endl;

a5in.close();

a5out.close();

return 0;

}

float final\_grade(float weights[], int grade[]) //the student average function

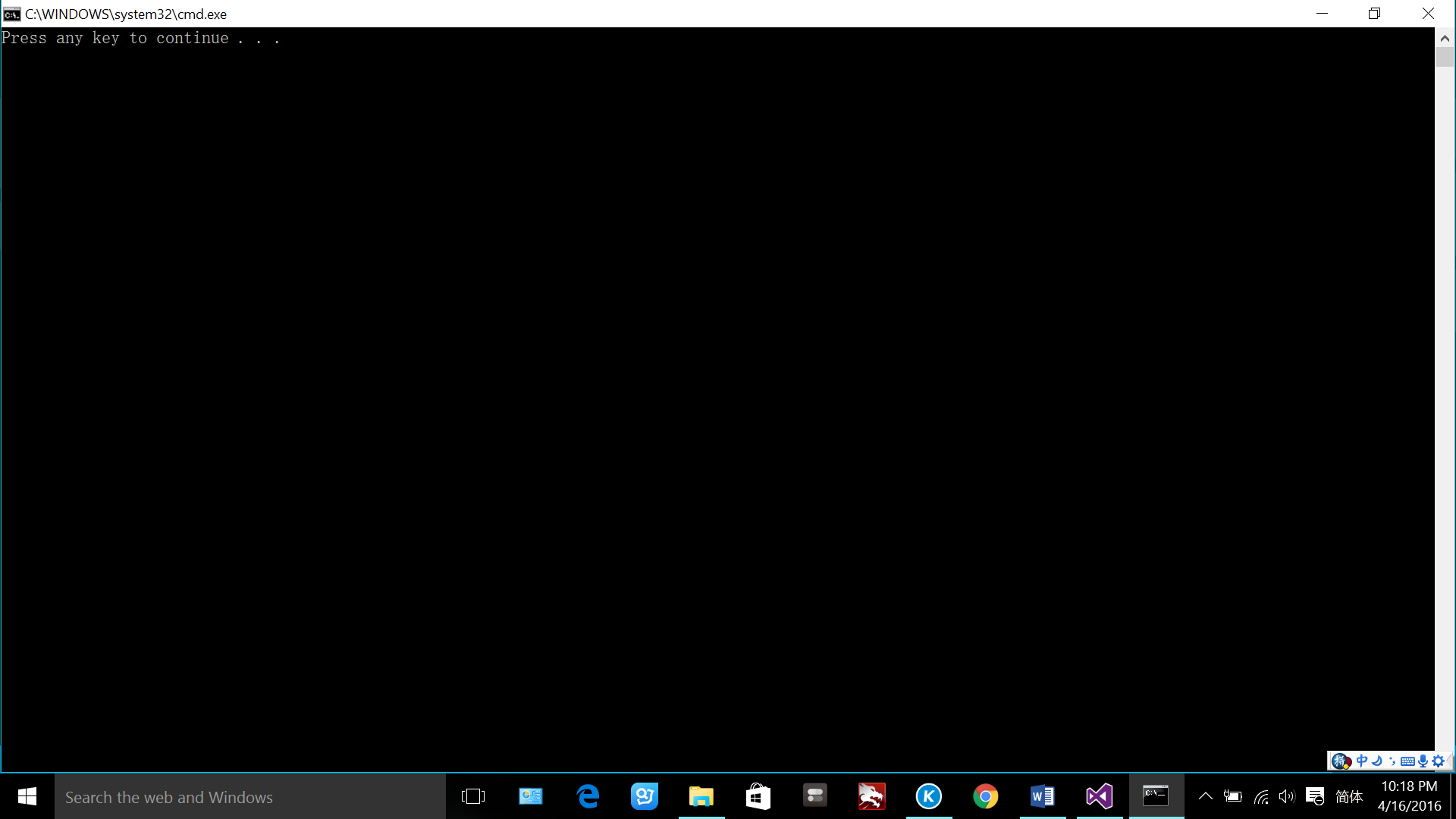
{

int k = 0;

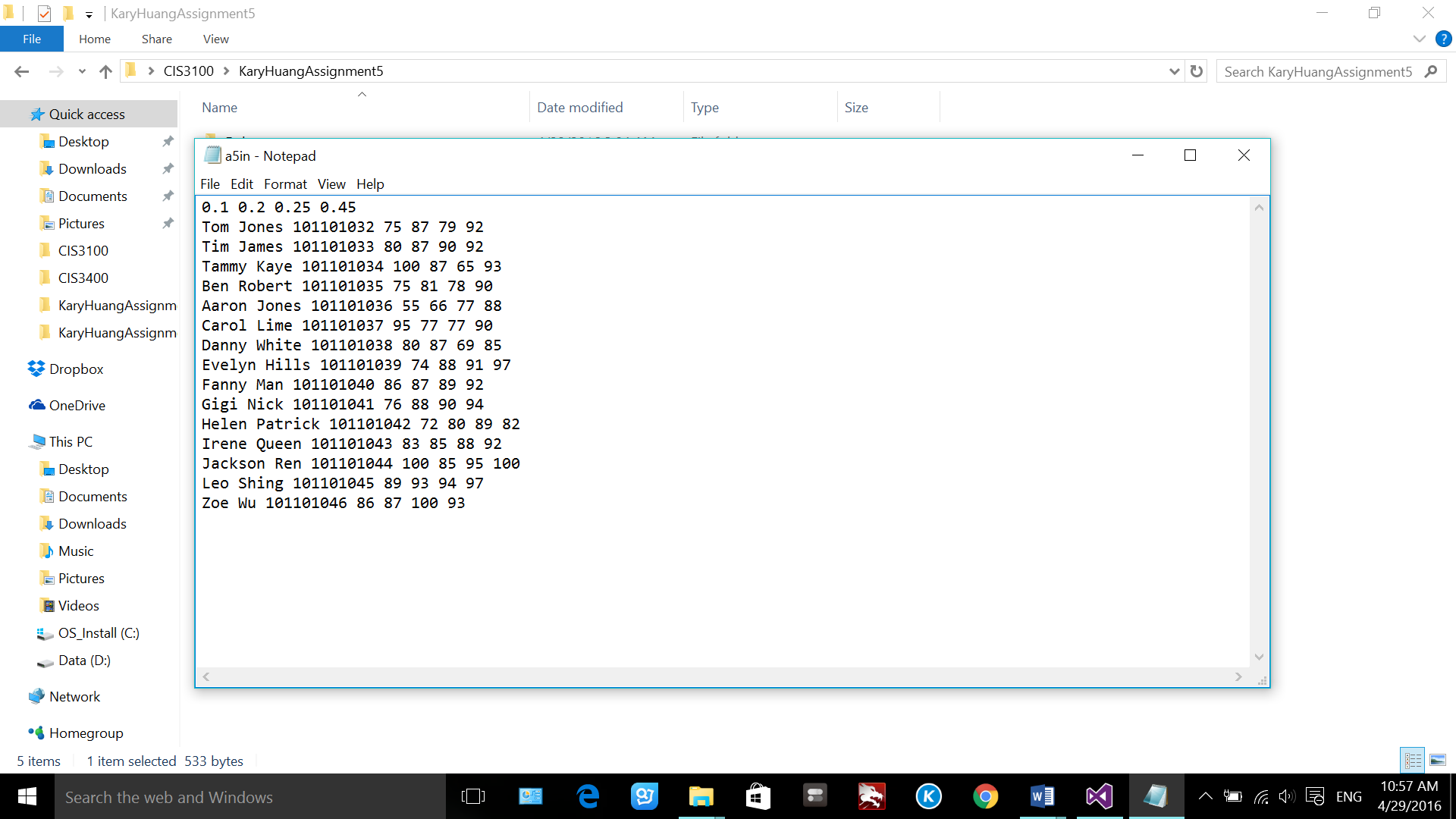
return (weights[0] \* grade[k] + weights[1] \* grade[k + 1] + weights[2] \* grade[k + 2] + weights[3] \* grade[k + 3]);

}

**OUTPUT**



**a5in.txt**



**a5out.txt**

