**q1.ccp**

#include <iostream>

#include <cmath>

using namespace std;

double WeightedAverage(double w[], double x[])

{

double sumWX = 0; //משתנה לחישוב סכום מערך ערכים כפול מערך משקלים

double sumX = 0; //משתנה חישוב סכום המערכים

double sum = 0; //משתנה לחישוב הסכום לפי הנוסחה

for (int i = 0; i < 4; i++)

{

sumWX += w[i]\*x[i]; // חישוב הסכומים

sumX += x[i];

sum = sumWX/sumX;

}

return sum; //החזרת הערך שיוצא מהחישוב

}

int main()

{

double w[] = {0.2,0.3,0.4,0.5};

double x[] = {2,3,4,5};

cout<<WeightedAverage(x,w);

return 0;

}

**q2.cpp**

#include <iostream>

#include <cmath>

using namespace std;

bool IsArithmeticProgression(int\* x, int length)

{

if (length < 3)

{

return false;

}

for (int i = 1; i < length - 1; i++)

{

if (x[i + 1] - x[i] != x[1] - x[0])

{

return false;

}

}

return true;

}

bool IsArithmeticProgression(char\* x, int length)

{

if (length < 3)

{

return false;

}

for (int i = 1; i < length - 1; i++)

{

if (x[i + 1] - x[i] != x[1] - x[0])

{

return false;

}

}

return true;

}

int main()

{

int length;

cin >> length;

if (length < 3)

{

cout << "You need to pick another number";

length = 3;

}

int \*nums = new int[length];

for (int i = 0; i < length; i++)

{

cin >> nums[i];

}

if (IsArithmeticProgression(nums, length))

{

cout << "It's an arithmetic progression." << endl;

}

else

{

cout << "It's not an arithmetic progression." << endl;

}

delete[] nums;

char\* letters = new char[length];

for (int i = 0; i < length; i++)

{

cin >> letters[i];

}

if (IsArithmeticProgression(letters, length))

{

cout << "It's an arithmetic progression." << endl;

}

else

{

cout << "It's not an arithmetic progression." << endl;

}

delete[] letters;

return 0;

}

**Q3,cpp**

#include <iostream>

#include <cmath>

using namespace std;

char\*\* sringMilim(char\* str, int\* size)

{

\*size = 1;

for (int i = 0; i < strlen(str); i++)

{

if (str[i] == ' ')

{

(\*size)++;

}

}

char\*\* strLong = new char\* [\*size];

int row = 0;

int col = 0;

strLong[row] = new char[strlen(str)];

for (int j = 0; j < strlen(str); j++)

{

if (str[j] != ' ')

{

strLong[row][col] = str[j];

col++;

}

else

{

strLong[row][col] = '\0';

row++;

col = 0;

strLong[row] = new char[strlen(str)];

}

}

strLong[row][col] = '\0';

return strLong;

}

char\* strX2(char\* str)

{

char\* strDouble = new char[strlen(str)\*2];

for (int i = 0; i < strlen(str); i++)

{

strDouble[i] = str[i];

strDouble[i+strlen(str)] = str[i];

}

strDouble[strlen(str) \* 2 ] = '\0';

return strDouble;

}

int main()

{

char str[] = { "baba and mama" };

int a = 0;

int\* size = &a;

cout << str << endl;

char\*\* strLong = sringMilim(str, size);

for (int i = 0; i < \*size; i++)

{

cout << strX2(strLong[i]) << endl;

}

}