Pseudo-Code for Linear Regression Methods

LinearRegression::LinearRegression()

    set default values for variables

    ask user for x-axis file name

    check if x-axis file name is valid choice

    ask user for y-axis file name

    check if y-axis file name is valid choice

    call calculate method

void LinearRegression::calculate()

    b1Value = topValue / bottomValue;
    b0Value = averageOfVector(vector2) - b1Value * averageOfVector(vector1);

    call readInValues for both files

    declare and initialize all need variables to hold temp values

    calculate topValueLeft using sumvalues and multiplyvalues methods
    calcualte topValueRight using averageOfVector method
    calcualte topValue using topValueLeft - topValueRight

    calculate bottomValueLeft using sumvalues and multiplyvalus methods
    calculate bottomValueRight using averageOfvector method
    calculate bottomValue using bottomValueLeft - bottomValueRight

    calculate b1 value using topValue / bottomValue
    calculate b0 value using averageofvector method and b1value

void LinearRegression::readInValues(string filename, vector<float> &vector)

    delcare ifstream variable

    open file

    declare currentValue float and set to 0

    while (lines in file)
        read in value
        add to vector

    close file

vector<float> LinearRegression::multiplyValues(vector<float> vector1, vector<float> vector2)

    declare vector to hold results

    if (vectors not same size)
        return

```
    for (all items in vector1)
        add to new vector: vector1[i] * vector2[i]

    return new vector


float LinearRegression::sumValues(vector<float> vector)

    declare variable to hold result

    for (all items in vector)
        add vector[i] to sum

    return sum
```