14.12. HW5: Vectors

14.11 Lab 6: Symmetric order (with a vector)

info

Students:

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assignment

Students:

Section 14.12 is a part of 1 assignment: Homework 5: Vectors

For this assignment, you will modify the Vector class which we wrote together in lecture to build additional functionality. For this assignment, I'd just like you to modify the .h file. You will also submit a main function, which will test some of your functions.

First, modify the Vector class to add the following functions:

erase: This is actually the same as our current erase function, expect for one difference. You will rewrite the function erase from our implementation of vectors so that if the number of elements gets below capacity/4, you shrink the array capacity by half. If this happens, all the elements copied into a new array of the appropriate size. (5 points)

maximum: This function should take no input parameters and returns the maximum value stored in the vector. If it is empty, the function should throw a domain error stating "vector is empty". (5 points)

remove: Write the function **remove** which takes as input a value of the correct type and removes the earliest occurrence of that value in the vector. Note that this function does change the size, and it does not return anything. If there is no occurrence of the value in the vector, it should not do anything. If it is empty, the function should throw a domain error stating "vector is empty". (5 points)

reverse: Write a function which reverses the order of the vector's elements. (5 points)

sort: Implement one of the sorting algorithms from class. (5 points)

Finally, write a simple main.cpp to use the reverse and sort functions, as follows:

- create and print a list of floating points, and add the values 3.7, 2.1, 9.8, -3.9, 5.3, -11.2, and 7.6 (in that order). (1 point)
- reverse the list and print it again (1 point)
- sort the list and print it one last time (1 point)

(Note that you'll probably need to use main in your coding to do more testing of the functions as you write them! I'm just not requiring a longer one to be submitted this time.)

lab

activity

14.12.1: HW5: Vectors

g++ main.cpp -Wall -o a.out

We will use this command to compile your code

Upload your files below by dragging and dropping into the area or choosing a file on your hard drive.

Vector.h

Drag file here or

main.cpp

Drag file here or

Due: 03/08/2019, 11:59 PM

14.13 Lab 7: phone list