

Ourvector Analysis

ourvector<i> stats:

of vectors created: 7
of elements inserted: 26
of elements accessed: 40

ourvector<c> stats:

of vectors created: 10
of elements inserted: 221
of elements accessed: 1722

ourvector<9ourvectorIcE> stats:

of vectors created: 1
of elements inserted: 4
of elements accessed: 755

ourvector<NSt7__cxx112basic_stringIcSt11char_traitsIcESaIcEEEE> stats:

of vectors created: 14
of elements inserted: 36
of elements accessed: 44

ourvector<NSt7__cxx112basic_stringIcSt11char_traitsIcESaIcEEEE> stats:

of vectors created: 4
of elements inserted: 12
of elements accessed: 24

ourvector<9ourvectorINSt7__cxx112basic_stringIcSt11char_traitsIcESaIcEEEE> stats:

of vectors created: 1
of elements inserted: 3
of elements accessed: 6

I used the following command line to test the vector class:

load_db small.txt

load_dna 1.txt

process

display

show_all (Creative Component, shows all STR occurrences in DNA sequence)

search

#

`ourvector<i>` is a vector of integers. At line 355 and 155, I created “result” , “all_results” and “temp_result” vectors. because “temp_result” will clear every time it being used, so it adds up to 7. At line 211, 215, result vector gets insert to save repeat DNA. At line 169, “temp_result” vector gets insert to save matched STR location in DNA sequence, this is where the most insert appear. At line 217, “All_result” vector gets insert to save the size of “temp_result”, this should only take 3 inserts. Accessed appears at line 198 for loop for “temp_result”, line 299 for “result” and “all_result” to display.

`ourvector<c>` is a vector of char. At line 354, I created “dna” vector, at line 125, “dna” gets insert to save DNA sequence, 211 is the char amount in 1.txt. 1722 times of access appears at line 163 for loop and line 289 cout. Because of compare so the access amount is the highest one.

`ourvector<9ourvectorIcE>` and `ourvector<NSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEEE>` is a 2d vector ,inside is char type, used to save database header. Created at line 354. 4 inserts appears at line 76, 4 inserts represents first line of database, name and STRs. Access appears at line 164 to compare same STR, so it has a large amount of access.

`ourvector<NSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEEE>` and `ourvector<9ourvectorINSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEEE>` is another 2d vector to save database content, such like name and amount of STR. Created at line 353 and line 99. 3 inserts appear at line 96, in the while loop, line 2,3,4 in the small.txt database being saved into “temp_chart” and insert into “data_for_display” vector. Access appears at 247 for loop, what it does is go through the vector to find the matched count number, then display the name on the matched line.