Attached Files: HW11a – Source.cpp, HW11b – Source.cpp

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\* Program: HW 11a

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\* Programmer: Cameron Abo

\* Class: CS 1C M/W 10:30a

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#include <iostream>

#include <ctime>

#include <vector>

#include <deque>

#include <list>

using namespace std;

int main()

{

clock\_t start;

clock\_t end;

vector<int> intVec;

deque<int> intDeque;

list<int> intList;

start = clock();

for (int i = 0; i < 150000000; i++)

{

// Use the push\_back() function to push i into the vector

intList.push\_back(i);

}

end = clock();

cout << "list time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

start = clock();

for (int i = 0; i < 150000000; i++)

{

// Use the push\_back() function to push i into the vector

intVec.push\_back(i);

}

end = clock();

cout << "vector time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

start = clock();

for (int i = 0; i < 150000000; i++)

{

// Use the push\_back() function to push i into the vector

intDeque.push\_back(i);

}

end = clock();

cout << "deque time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

return 0;

}

/\* OUTPUT

list time: 31 seconds.

vector time: 7 seconds.

deque time: 24 seconds.

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\* Program: HW 11b - Comparing runtimes - vector insert()

vs list push\_front()

vs deque push\_front()

(300,000 values)

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\* Programmer: Cameron Abo

\* Class: CS 1C M/W 10:30a

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#include<iostream>

#include<string>

#include<list>

#include<vector>

#include<deque>

#include<ctime>

using namespace std;

int main()

{

clock\_t start;

clock\_t end;

list<int>numbers;

vector<int>values;

deque<int>amounts;

start = clock();

for (int i = 0; i < 300000; i++)

{

numbers.push\_front(i);

}

end = clock();

cout << "list time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

start = clock();

for (int i = 0; i < 300000; i++)

{

values.insert(values.begin(), i);

}

end = clock();

cout << "vector time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

start = clock();

for (int i = 0; i < 300000; i++)

{

amounts.push\_front(i);

}

end = clock();

cout << "deque time: " << (end - start) / CLK\_TCK << " seconds.\n\n";

return 0;

}

/\* OUTPUT

list time: 0 seconds.

vector time: 3 seconds.

deque time: 0 seconds.

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