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1  /*
2  * Instituto Superior de Formación Técnica 151
3  * Tecnicatura Superior en Análisis de Sistemas
4  *
5  * Programación II
6  *
7  * Queue Project ( without parametrization )
8  * Queue Variant : simple
9  *
10 * Version:  Refactoring 1 (23/8/2015)
11 *           Revision 1.1  (24/8/2015)
12 *
13 * Grupo:
14 *
15 * Santiago, Matías Gastón
16 * Molina Burgos, Álvaro
17 * Mato, Santiago
18 * Sosa, Luis
19 *
20 *
21 * File:      main.cpp (testing file)
22 *
23 */
24
25 #include <iostream>
26 #include "QueueGeneric.hpp"
27
28 using namespace std;
29
30
31 int AsInt( void* input )
32 {
33     return *( (int*) input );
34 };
35
36
37 int main()
38 {
39     //Default
40     cout << "TEST A : Default Queue Construction using default parameter " << endl;
41     cout << "-----" << endl <<
42     endl;
43
44     cout << "::Initialization..." << endl;
45     Queue testA;
46
47     int valueA = 0;
48
49     cout << "::Fill 100% with int's [Available items = 256]... " << endl;
50     //Fill all possible items.
51     while ( testA.add( new int(valueA++) ) );
52
53     cout << "::Pop all items until queue be empty...\n\nResult:\n " << endl;
54     //Pop all items from queue.
55     while ( !testA.isEmpty() ) cout << AsInt( testA.pop() ) << " ";
56
57
58     //With size defined
59     cout << "\n\nTEST B : Construction by sizeof(type) " << endl;
60     cout << "-----" << endl <<
61     endl;
62
63     cout << "::Initialization..." << endl;
64     Queue testB( sizeof(int) );
65
66     cout << "::Fill with int's (1..10)... " << endl;

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67     for (int i=1; i<=10; i++ ) testB.add( new int(i) );
68
69     cout << "::Pop all items until queue be empty...\n\nResult:\n " << endl;
70     while( !testB.isEmpty() ) cout << AsInt( testB.pop() ) << endl;
71
72
73     //Copy Constructor TEST
74     cout << "\n\nTEST C : Copy Construction " << endl;
75     cout << "-----" << endl << "\n\n";
76
77     cout << "::Initialization default (A)..." << endl;
78     Queue testC;
79
80     cout << "::Fill (A) with int's (10..20)..." << endl;
81     for (int i=10; i<=20; i++ ) testC.add( new int(i) );
82
83     cout << "::Initialization (B) using copy of (A)..." << endl;
84     Queue testD( testC );
85
86     cout << "::Pop all items of queue (B)...\n\nResult:\n " << endl;
87     while( !testD.isEmpty() ) cout << AsInt( testD.pop() ) << endl;
88
89     //Operator assignment TEST
90     cout << "\n\nTEST D : Assignment operation " << endl;
91     cout << "-----" << endl << "\n\n";
92
93     cout << "::Initialization default (A)..." << endl;
94     Queue testE;
95
96     cout << "::Initialization default (B)..." << endl;
97     Queue testF;
98
99     cout << "::Fill (A) with int's (20..30)..." << endl;
100    for (int i=20; i<=30; i++ ) testE.add( new int(i) );
101
102    cout << "::Assignment of B = A..." << endl;
103    testF = testE;
104
105    cout << "::Pop all items until queue be empty...\n\nResult:\n " << endl;
106    while( !testF.isEmpty() ) cout << AsInt( testF.pop() ) << endl;
107
108    return 0;
109 }
110

```