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1: /*****
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2: /* GuitarString.cpp
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3: /* Yoo Min Cha
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4: /* GuitarString
   */
5: /* Professor Martin
   */
6: /* 16 March 2014
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7: /*****
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8:
9: #include <iostream>
10: #include <cstring>
11: #include <cstdlib>
12: #include <ctime>
13: #include "GuitarString.hpp"
14:
15: using namespace std;
16: using namespace sf;
17:
18: GuitarString::GuitarString(double frequency)
19: {
20:     _time = 0;
21:     _rb = new RingBuffer(frequency);
22: }
23: GuitarString::GuitarString(vector<Int16> init)
24: {
25:     _rb = new RingBuffer(init.size());
26:     for (unsigned int i = 0; i < init.size(); i++)
27:         _rb->enqueue(init[i]);
28: }
29: GuitarString::~GuitarString()
30: {
31: }
32: void GuitarString::pluck()
33: {
34:     _rb->empty();
35:     while (!_rb->isFull())
36:     {
37:         _rb->enqueue((Int16)(rand() & 0xffff));
38:     }
39: }
40: void GuitarString::tic()
41: {
42:     Int16 x = _rb->dequeue();
43:     double decay = .996*.5;
44:     _rb->enqueue((x+_rb->peek()) * decay);
45:     _time++;
46: }
47: Int16 GuitarString::sample()
48: {
49:     return (_rb->peek());
50: }
51: int GuitarString::time()
52: {
53:     return _time;
54: }
```