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1: // Copyright 2015 < Angel Zheondre Calcano>
2: // PS5b
3: #include <math.h>
4: #include <stdint.h>
5: #include <iostream>
6: #include <string>
7: #include <cstdlib>
8: #include <exception>
9: #include <stdexcept>
10: #include <vector>
11: #include "GuitarString.hpp"
12:
13: void GuitarString::pluck() {
14:     if (_j->isEmpty())
15:         throw
16:             std::runtime_error("Can't pluck, empty buffer.");
17:     int i; int16_t ran;
18:     for (i = 0 ; i < _size; i++)
19:         _j->dequeue(); // all 0s
20:     for (i = 0 ; i < _size; i++) {
21:         ran = (int16_t)(rand() & 0xffff);
22:         _j->enqueue(ran);
23:     }
24:     //std::cout << ran << " pluck" <<std::endl; //w
25: }
26: void GuitarString::tic() {
27:     if (_j->isEmpty())
28:         throw
29:             std::runtime_error("Can't tic, empty buffer.");
30:     double num1, num2, result;
31:     int i;
32:     num1 = _j->dequeue();
33:     num2 = _j->peek();
34:     result = .996*.5*(num1 + num2);
35:     //std::cout<< result << std::endl;
36:     for (i = 0 ; i < _size - 1; i++)// this function seems weird.
37:         _j->enqueue(_j->dequeue());
38:     _j->enqueue(result);
39:     //std::cout<< _j->peek();
40:     _ticCount++;
41: }
42: int16_t GuitarString::sample() {
43:     if (_j->isEmpty())
44:         throw
45:             std::runtime_error("Can't peek, empty buffer.");
46:     return _j->peek();
47: }
48: int GuitarString::time() {
49:     return _ticCount;
50: }
```