


 valpo-DylanBrown / ECE252

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ECE252 / ICE / ice03 / RightTriangleTest.cpp

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73 lines (61 sloc) 1.47 KB

```
1  #include<iostream>
2  #include<math.h>
3
4  using namespace std;
5
6  class RightTriangle {
7
8      private:
9          float a;
10         float b;
11         float c;
12
13     public:
14         RightTriangle();
15         RightTriangle(int x, int y, int hypotenuse);
16         void printValues();
17         bool isHypotenuseCorrect();
18         void fixHypotenuse();
19         void setHypotenuse(float x);
20         float getHypotenuse();
21
22 };
23
24
25 int main () {
26     RightTriangle* myTriangle = new RightTriangle(5, 12, 13);
27     myTriangle->printValues();
28     cout << "Hypotenuse correct? " << myTriangle->isHypotenuseCorrect() << endl;
29     myTriangle->setHypotenuse(20);
30     myTriangle->printValues();
31     cout << "Hypotenuse correct? " << myTriangle->isHypotenuseCorrect() << endl;
32     myTriangle->fixHypotenuse();
33     myTriangle->printValues();
34     cout << "Hypotenuse correct? " << myTriangle->isHypotenuseCorrect() << endl;
35     cout << "Hypotenuse: " << myTriangle-> getHypotenuse() << endl;
36     return 0;
37 }
38
39 RightTriangle::RightTriangle() {
40     a = 3;
41     b = 4;
42     c = 5;
43 }
44
45 RightTriangle::RightTriangle(int x, int y, int hypotenuse) {
46     a = x;
47     b = y;
```

```
48     c = hypotenuse;
49 }
50 bool RightTriangle::isHypotenuseCorrect(){
51     if (fabs(a*a + b*b - c*c) < 0.0001){
52         //cout << "1"<< endl;
53         return true;
54     } else {
55         //cout << "0" << endl;
56         return false;
57     }
58 }
59
60 void RightTriangle::fixHypotenuse(){
61     c=sqrt(a*a+b*b);
62 }
63
64 void RightTriangle::printValues(){
65     cout << "side 1: " << a << ", side 2: " << b << ", hypotenuse: " << c << endl;
66 }
67 void RightTriangle::setHypotenuse(float x){
68     c = x;
69 }
70 float RightTriangle:: getHypotenuse(){
71     return c;
72 }
```