

src/OrderedPair.cpp

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1 // Title: OrderedPair.cpp
2 // Desc: Implementation of OrderedPair class
3 // Name: An Tran
4
5 #include "OrderedPair.h"
6
7 #include <iostream>
8 #include <string>
9 #include <cmath>
10
11
12 // constructors
13 OrderedPair::OrderedPair() : xVal(0.0), yVal(0.0) {};
14 OrderedPair::OrderedPair(double xVal, double yVal) : xVal(xVal), yVal(yVal) {};
15
16 // getters
17 double OrderedPair::getX(){
18     return xVal;
19 };
20
21 double OrderedPair::getY(){
22     return yVal;
23 };
24
25 // setters
26 void OrderedPair::setX(double newXVal){
27     xVal = newXVal;
28 };
29
30 void OrderedPair::setY(double newYVal){
31     yVal = newYVal;
32 };
33
34 void OrderedPair::setPair(double& newXVal, double& newYVal){
35     setX(newXVal);
36     setY(newYVal);
37 };
38
39 // element-wise arithmetic functions
40 double OrderedPair::addPair(){
41     return xVal + yVal;
42 };
43
44 double OrderedPair::subtractPair(){
45     return xVal - yVal;
46 };
47
48 double OrderedPair::multiplyPair(){
49     return xVal * yVal;
50 };
51
52 double OrderedPair::dividePair(){
53     if (yVal == 0){
```

```
54         std::cout << "yVal==0";
55         return -1;
56     } else {
57         return xVal / yVal;
58     };
59 };
60
61 double OrderedPair::powerPair(){
62     return pow(xVal, yVal);
63 };
64
65 // pair-wise arithmetic functions
66 void OrderedPair::addPair(OrderedPair& obj1, OrderedPair& obj2){
67     xVal = obj1.xVal + obj2.xVal;
68     yVal = obj1.yVal + obj2.yVal;
69 };
70
71 void OrderedPair::subtractPair(OrderedPair& obj1, OrderedPair& obj2){
72     xVal = obj1.xVal - obj2.xVal;
73     yVal = obj1.yVal - obj2.yVal;
74 };
75
76 void OrderedPair::multiplyPair(OrderedPair& obj1, OrderedPair& obj2){
77     xVal = obj1.xVal * obj2.xVal;
78     yVal = obj1.yVal * obj2.yVal;
79 };
80
81 void OrderedPair::dividePair(OrderedPair& obj1, OrderedPair& obj2){
82     if (obj2.xVal == 0 || obj2.yVal == 0){
83         std::cout << "DIVIDE BY ZERO";
84     } else {
85         xVal = obj1.xVal / obj2.xVal;
86         yVal = obj1.yVal / obj2.yVal;
87     };
88 };
89
90 void OrderedPair::powerPair(OrderedPair& obj1, OrderedPair& obj2){
91     xVal = pow(obj1.xVal, obj2.xVal);
92     yVal = pow(obj1.yVal, obj2.yVal);
93 };
94
95 // other functions
96
97 void OrderedPair::displayPair(){
98     std::cout << "(" << std::to_string(xVal) << ", " << std::to_string(yVal) << ")" <<
std::endl;
99 };
100
```