c++ template class bubble sort operand error
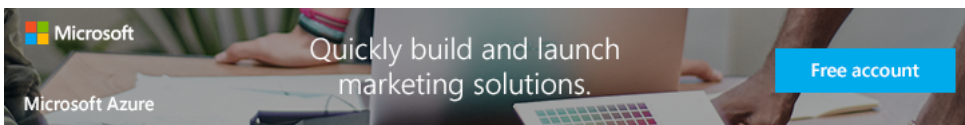
Hi i trying to create a template method to sort a vector of object by their x coordinate. They are giving me operand error
with the '=' sign

Inside main have some codes, vector point2d have already data being populated.

```cpp
vector<Point2D> point2d;
.....
point2d = sortByAscX(point2d, point2d.size());
```

my template.h

```cpp
template <class T>
vector<T> sortByAscX(vector<T> a1, int size) {

    for(int x=0; x<size; x++) {

        for(int y=0; y<size-1; y++) {

            if(a1[y].getX()<a1[y+1].getX()) {

                int temp = a1[y+1].getX();

                a1[y+1].setX(a1[y].getX());

                a1[y].setX(temp);
            }
        }
    }
    return a1;
}
```

Error

```
MyTemplates.h:32:20: error: lvalue required as left operand of assignment
    a1[y+1].getX() = a1[y].getX();
                   ^
MyTemplates.h:34:18: error: lvalue required as left operand of assignment
    a1[y].getX() = temp;
```

c++   sorting   templates

edited May 22 '15 at 18:27   asked May 22 '15 at 18:16

                                                                        Tommy Yap
                                                                        24   3

getX() returns a value. you're assigning a literal to yet another literal. – Achilles Rasquinha May 22 '15 at
18:21

I tried changing to set value but it come out 0 –   Tommy Yap May 22 '15 at 18:28

3 Answers

The reason you are getting this error is that you are calling a `getX()` function and trying to set
it equal to a value. You need to have or call a `setX()` function and pass your value through it.
You can only get a value with a get function.

answered May 22 '15 at 18:19

i tried doing this and it produce 0 int temp = a1[y+1].getX(); a1[y+1].setX(a1[y].getX()); a1[y].setX(temp); –
Tommy Yap May 22 '15 at 18:24

What do you mean it produced 0. In the code you have it looks like you are trying to swap the X values of 2
elements of a vector. Please be more specific. – NendoTaka May 22 '15 at 18:45
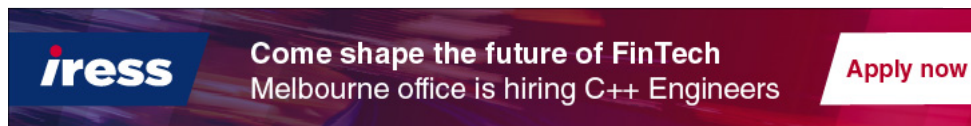
As @NendoTaka correctly explained, you are trying to assign to a rvalue. If you want to use
the same function for both a getter/setter, then make it return a reference

```
T& getX() { ...}
```

although now the name will be a tad confusing, as most people expect the getter to return an
non-mutable object.

answered May 22 '15 at 18:22

vsoftco
36.8k   4   48   120

I tried changing to set value but it come out 0 –   Tommy Yap   May 22 '15 at 18:34

What does getX() return? It must not be an assignable value because that is what the compiler
is complaining about. If it returns a reference of the X value, you can assign to it, but if it is
const or returns a copy you can't assign to it.

answered May 22 '15 at 18:23

pelotron
48   3   11

I tried changing to set value but it come out 0 –   Tommy Yap   May 22 '15 at 18:34

Can you post your relevant Point2D code? – pelotron May 22 '15 at 22:07