## What does `::\*` (colon colon star) means in C++? [duplicate]

Asked 3 years, 10 months ago Modified 3 years, 10 months ago Viewed 609 times



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Pointer to class data member "::\*" (18 answers)

Closed 3 years ago.



There is a segment of code incomprehensible when my friend was reading this hpp file. Specifically,



- what does certain formation such as A(B, C), int(int, int), or in this case T(Type::\*) means? I've already seen usages such as std::function<int(int, int)>, but still have no idea what int(int, int), alone, means.
- what does Type::\* mean? How can a asterisk mark follows :: directly?

C++

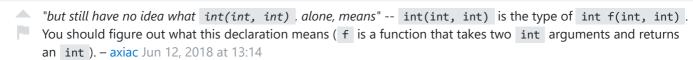
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```
10 // Member variables
11 template (typerame Type, typename Type)
12 class Lens(T(ppe::*)> (
13 public:
14 typedef T(Type::*MemberPtr);
15 typedef Type Target;
16 typedef T ValueType;
17
18 Lens(MemberPtr ptr)
19 : m_ptr(ptr) {}
20
21 template <typename Arg>
22 void set(Target &obj, Arg &&arg) const {
23 obj.*m_ptr = std::move(std::forward<Arg>(arg));
24 }
25
26 private:
27 MemberPtr m_ptr;
```

asked Jun 12, 2018 at 13:10

CXuesong
492 • 4 • 12

Is Type a namespace? – Dominique Jun 12, 2018 at 13:13



related: stackoverflow.com/questions/670734/... – NathanOliver Jun 12, 2018 at 13:16

@Dominique It is more likely to be a type name, I suppose. – CXuesong Jun 12, 2018 at 13:19

@axiac So you mean int(int, int) is actually a type of function? I've never thought of that, because I've seen something like int (\*func)(int, int), i.e. function pointer types pretty much, but not the function types themselves. — CXuesong Jun 12, 2018 at 13:24

## 1 Answer

Sorted by:

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**\$** 



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::\* is used to declare a pointer to a member of class. So in this case, it's pointing to a member of the template type callled Type.



std::function<int(int, int)> is an std::function for holding a method that takes paramters of (int, int), and returns an integer result. (This is an example of the famously complicated C/C++ type declaration syntax).



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