Subject: [Solved]Vector<Vector<int>> problem
Posted by bozero on Mon, 17 Feb 2020 04:21:09 GMT
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Hi, everyone:

Please advise me how to fix the below problem.

```
#include <Core/Core.h>
using namespace Upp;
CONSOLE_APP_MAIN
{
 Vector<int> vi1,vi2;
 Vector<Vector<int>> vvi;
 vi1<<1<<2;
 vi2<<3<<4;
 vvi<<vi1<<vi2;
 DUMP(vvi); // vvi = [[1, 2], [3, 4]]
}
```

and got error message:

```
...upp/uppsrc/Core/Vcont.h:104:7: note: 'constexpr Upp::Vector<int>::Vector(const
Upp::Vector<int>&)'
     is implicitly declared as deleted because 'Upp::Vector<int>' declares a move constructor or
move assignment operator
 class Vector : public MoveableAndDeepCopyOption< Vector<T> > {
       ^~~~~~
Test: 1 file(s) built in (0:02.91), 2918 msecs / file, duration = 2918 msecs

There were errors. (0:03.34)
```

The code is working on upp-mingw-11873,
but not work on upp-mingw-13664 & upp-mingw-13916.
under windows 10.

I am sorry for my stupid question and poor english.

Thank you very much

Subject: Re: Vector<Vector<int>> problem
Posted by koldo on Mon, 17 Feb 2020 08:19:29 GMT
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In my case I get this error in MinGW:
error: use of deleted function 'constexpr Upp::Vector<int>::Vector(const Upp::Vector<int>&)'

and this in MSVC:
C:\upp\uppsrc\Core\Vcont.h(132): error C2280: 'Upp::Vector<int>::Vector(const Upp::Vector<int> &)': attempting to reference a deleted function
C:\upp\uppsrc\Core\Vcont.h(258): note: compiler has generated 'Upp::Vector<int>::Vector' here
C:\upp\uppsrc\Core\Vcont.h(258): note: 'Upp::Vector<int>::Vector(const Upp::Vector<int> &)': function was implicitly deleted because 'Upp::Vector<int>' has a user-defined move constructor
C:\upp\uppsrc\Core\Vcont.h(132): note: while compiling class template member function 'T &Upp::Vector<T>::Add(co
nst T &)' with
[
T=Upp::Vector<int>
]
C:\upp\uppsrc\Core\Vcont.h(197): note: see reference to function template instantiation 'T &Upp::Vector<T>::Add(const T &)' being compiled with
[
T=Upp::Vector<int>
]
C:\upp\uppsrc\Core\InVector.h(33): note: see reference to class template instantiation 'Upp::Vector<Upp::Vector<int>>' being compiled
C:\upp\uppsrc\Core\InVector.h(176): note: see reference to class template instantiation 'Upp::InVector<T>' being compiled

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Subject: Re: Vector<Vector<int>> problem
Posted by Novo on Tue, 18 Feb 2020 17:43:51 GMT
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bozero wrote on Sun, 16 February 2020 23:21
The code is working on upp-mingw-11873,

This code is not supposed to compile with any compiler and latest version of Upp.
There are two issues with this code.
1. You are supposed to tell explicitly what you want to do with your Vector.
```
vvi.Add(clone(vi1));
vvi.Add(pick(vi2));
```

In the first case you are making a copy, in second - moving.
2. There is a problem with Vector& operator<<(const T& x)
It is supposed to look like below. This version of operator<< is missing.
```
Vector&  operator<<(T&& x)  { Add(pick(x)); return *this; }
```

In this case you would be able to write
```
vvi << pick(vi1) << pick(vi2);
```
Hope this helps.

Subject: Re: Vector<Vector<int>> problem
Posted by Novo on Tue, 18 Feb 2020 18:00:12 GMT
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Second issue has been fixed in svn/git already.

Subject: Re: Vector<Vector<int>> problem
Posted by bozero on Wed, 19 Feb 2020 02:49:17 GMT
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Hi! Novo, koldo
Thank you for your reply.

The problem is solve by: vvi.Add(clone(vi1)); vvi.Add(pick(vi2)); // just a bit more typing

About method chaining of "<<", it seem not ready on upp-mingw-14027.

Subject: Re: Vector<Vector<int>> problem
Posted by koldo on Wed, 19 Feb 2020 16:28:54 GMT
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Very interesting, thank you Novo

vvi << pick(vi1) << pick(vi2);

operator<< is very handy, but has to be handled with care when managing more complex data than basic C types.

Subject: Re: Vector<Vector<int>> problem
Posted by JeyCi on Sun, 14 Feb 2021 03:08:07 GMT
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Novo wrote on Tue, 18 February 2020 18:43
There are two issues with this code.
In the first case you are making a copy, in second - moving.
Hope this helps.
Novo, thanks for superior explanation! I missed very much this in my class-design - will check thoroughly!

Subject: Re: Vector<Vector<int>> problem
Posted by Novo on Mon, 15 Feb 2021 14:53:53 GMT
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JeyCi wrote on Sat, 13 February 2021 22:08Novo wrote on Tue, 18 February 2020 18:43
There are two issues with this code.
In the first case you are making a copy, in second - moving.
Hope this helps.
Novo, thanks for superior explanation! I missed very much this in my class-design - will check thoroughly!
No problem. That was quick - less than a year...
