
Subject: Pass data of Vector<Vector<double>> into a function call

Posted by [sinpeople](#) on Wed, 17 Mar 2021 07:13:04 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi folks,

I need to pass a data variable of type Vector<Vector<double>> into a function call. What's the best way to do it?

Inside the function call, a clone will be created according to the data passed in, without modifying the value passed in.

Any example of general guidelines on doing this? Thank you!

Best Regards

David WANG

Subject: Re: Pass data of Vector<Vector<double>> into a function call

Posted by [Didier](#) on Wed, 17 Mar 2021 20:53:31 GMT

[View Forum Message](#) <> [Reply to Message](#)

Well quite simple question:

just put:

```
void function( const Vector<Vector<double>>& var);
```

Subject: Re: Pass data of Vector<Vector<double>> into a function call

Posted by [Xemuth](#) on Wed, 17 Mar 2021 22:57:15 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hello,

if you want to clone your vector, you can simply use clone :

This exemple show a function taking a vector<vector<double>> in entry cloning it, add 1 to all of double, then return it by moving the clone.

```
#include <Core/Core.h>
```

```
using namespace Upp;
```

```
Vector<Vector<double>> PrintVector(const Vector<Vector<double>>& vector);
```

```
CONSOLE_APP_MAIN  
{
```

```

//original vector of vector of double
Vector<Vector<double>> original{{2.0,3.0},{4.0,5.0}};

//pick allow you to move a value between variable without having to do copy
Vector<Vector<double>> ret = pick(PrintVector(original));

//We print the vector and all is double
for(const Vector<double>& vec : ret){
    for(const double& d : vec){
        Cout() << d;
    }
    Cout() << "\n";
}
}

Vector<Vector<double>> PrintVector(const Vector<Vector<double>>& vector){
    //Clone allow you to clone a variable (the class you want to copy must have a copy constructor)
    Vector<Vector<double>> myClone = clone(vector);

    //We add + 1 to all double of our clone
    for(Vector<double>& vec : myClone){
        for(double& d : vec){
            d += 1.0;
        }
    }

    //we return our clone not by copying but by moving it
    return pick(myClone);
}

```

Subject: Re: Pass data of Vector<Vector<double>> into a function call

Posted by [mirek](#) on Fri, 19 Mar 2021 12:26:36 GMT

[View Forum Message](#) <> [Reply to Message](#)

Sometimes it is good to use r-value reference, as it gives you freedom in usage:

```

Vector<Vector<double>> AdjustVector(Vector<Vector<double>>&& vector){
    for(Vector<double>& vec : vector){
        for(double& d : vec) {
            d += 1.0;
        }
    }
    return pick(vector);
}

```

```
CONSOLE_APP_MAIN
{
    Vector<Vector<double>> x { { 1, 2 }, { 3, 4 } };

    auto y = AdjustVector(clone(x));

    DDUMP(x);
    DDUMP(y);

    y = AdjustVector(pick(x));

    DDUMP(x);
    DDUMP(y);
}
```

Mirek
