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How to use Multidimensional vector in C++

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Hi,

I got some problem to set the values in 2d and 3d vector.
I want to know the process to create and return the 2dimensional and 3dimensional vector values where size will be changed dynamically.

I also tried the following code but i didn't get any help:

3D vector:

                                                                    Hide   Copy Code

```
vector < vector < vector<int> > > tube;

for(int i=0;i<2;i++)
{
    for(j=0;j<4;j++)
    {
        for(k=0;k<15;k++)
        {
        tube.push_back( vector< vector<int> >() );
        tube[k].push_back (vector<int> ());
        tube[i][j].push_back(value)
        }
```

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```
        }
    }
```

but I don't know whether it will work and also don't know where should I set i,j,k parameter.

and I also want to do the same thing for 2d vector

Please let me know that what is the correct way to do this.

Thanks...

Posted 10-Sep-12 9:19am   **Updated** 10-Sep-12 9:20am v2
saqib.akhter 924

Add a Solution

Comments

Sergey Alexandrovich Kryukov 10-Sep-12 15:32pm
Not clear what's the problem? To try to run your code and see what happens? What is that supposed to mean "where should I set i, j, k
parameter"? You set them where you want to access the element by index...
--SA

2 solutions

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Solution 2

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Possibly you mean something similar to

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```cpp
#include <iostream>
#include <vector>
#include <cstdlib>
using namespace std;
```

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How to use vector in c++

```cpp
int main ()
{
  vector < vector < vector<int> > > tube;
  for(int i = 0; i < 2; i++)
  {
    vector < vector < int > > w;
    tube.push_back( w );
    for(int j = 0; j < 4; j++)
    {
      vector <int> v;
      tube[i].push_back( v );
      for(int k = 0; k < 15; k++)
      {
        tube[i][j].push_back( rand());
      }
    }
  }

  for (size_t i = 0; i < tube.size(); i++)
    for (size_t j = 0; j < tube[i].size(); j++)
```

?

Posted 10-Sep-12 9:42am
CPallini **401.5K**

Comments

devender_t 15-Apr-16 15:37pm
Wow!!! your solution solved my issue which was not solved on Stackoverflow also.
Thank You. I truly appreciate it.

CPallini 16-Apr-16 12:14pm
Almost 4 years later? :-)
You are welcome.

Solution 1

Rate this: 👎 ★★★★☆ 👍

Hide   Copy Code

```cpp
vector < vector < vector<int> > > tube;
for(int i=0;i<2;i++)
{
    tube.push_back(vector<vector<int> >());
    for(int j=0;j<4;j++)
    {
        tube[i].push_back(vector<int>());
        for(int k=0;k<15;k++)
        {
            tube[i][j].push_back(value);
        }
    }
}
```

OR more efficiently:

Hide   Copy Code

```cpp
vector < vector < vector<int> > > tube;
tube.resize(2);
for(int i=0;i<2;i++)
{
    tube[i].resize(4);
    for(int j=0;j<4;j++)
    {
        tube[i][j].resize(15, value);
    }
}
```

However if you have to use and resize 3D vectors often then its profitable to write a specialized class for the job but that's a bit more difficult than what we are discussing here.
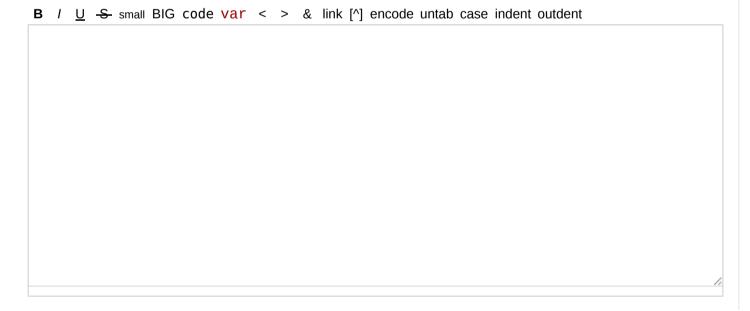
Posted 10-Sep-12 9:33am   **Updated** 10-Sep-12 9:36am v2
pasztorpisti **39.8K**

Comments

saqib.akhter 10-Sep-12 15:43pm

It looks good.....
but I have to implement like this:

```
vector < vector < vector<int> > > tube;
for(int i=0;i<2;i++)
{
for(int j=0;j<4;j++)
{
for(int k=0;k<15;k++)
{
SetTubeValue(value,range,cycle,seq); //i=range,j=cycle,k=seq
}
}
}
void MyClass::SetTubeValue(int value,int range,int cycle,int seq)
{
//then set the value to tube vector;
}
```

Please take a look for above scenario

---

pasztorpisti **10-Sep-12 16:39pm**

And why would you set values in the middle of the loops? First create the whole array with default values and after that issue your SetTubeValue() calls.

Add your solution here

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1. Read the question carefully.

2. Understand that English isn't everyone's first language so be lenient of bad spelling and grammar.

3. If a question is poorly phrased then either ask for clarification, ignore it, or **edit the question** and fix the problem. Insults are not welcome.

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