Initializing a two dimensional std::vector

So, I have the following:

```
std::vector< std::vector <int> > fog;
```

and I am initializing it very naively like:

```
for(int i=0; i<A_NUMBER; i++)
{
        std::vector <int> fogRow;
        for(int j=0; j<OTHER_NUMBER; j++)
        {
```

```
                    fogRow.push_back( 0 );
                }
                fog.push_back(fogRow);
        }
```

And it feels very wrong... Is there another way of initializing a vector like this?

c++   vector

edited Jul 15 '13 at 20:28   asked Jul 15 '13 at 20:21

fritzone
16.7k   9   44   100

1   I would recommend a 1d vector implementation for a 2d vector if you don't require more space than
      `std::vector<int>::max_size()` . Here – andre Jul 15 '13 at 20:34

2 Answers

Use the `std::vector::vector(count, value)` constructor that accepts an initial size and a
default value:

```
 std::vector<std::vector<int>> fog(
      A_NUMBER,
      std::vector<int>(OTHER_NUMBER)); // Defaults to zero initial value
```

If a value other zero, say 4 for example, was required to be the default then:

```
 std::vector<std::vector<int>> fog(
      A_NUMBER,
      std::vector<int>(OTHER_NUMBER, 4));
```

And just to mention uniform initialization introduced in c++11, which permits the initialization of
 vector , and other containers, using {} :

```
 std::vector<std::vector<int>> fog { { 1, 1, 1 },
                                    { 2, 2, 2 } };
```

edited Jul 15 '13 at 20:39   answered Jul 15 '13 at 20:24

hmjd
92.3k   9   129   193

```
36   if (dev.isBored() || job.sucks()) {
37       searchJobs({flexibleHours: true, companyCulture: 100});
38   }
39   // A career site that's by developers, for developers.
```

There is no `append` method in `std::vector` , but if you want to make a vector containing `A_NUMBER` vectors of `int` , each of those containing `other_number` zeros, then you can do this:

```
std::vector<std::vector<int>> fog(A_NUMBER, std::vector<int>(OTHER_NUMBER));
```

answered Jul 15 '13 at 20:25

juanchopanza
169k   17   236   355

about append: just a typo :) thanks! –   fritzone   Jul 15 '13 at 20:28