How to change all elements with only one assignment and in one line in C?

[intro]

Use the class valarray in the library <valarray>.

valarray is a special class that can create same values n times by calling the constructor.

It also can change all element into a specific value in only one assignment.

[Example]

The following statement in the following code

create an object named bar with the initialized values of four times.

While the following statement in the following code

changes all elements of bar into 5.

(More details on the following link and its related pages.)

[namespace]

std

[library]

<valarray>

[code]

#include <iostream>

#include <string>

#include <valarray>

using namespace std;

template <class T>

void PrintValarray(std::valarray<T> va,string name)

{

cout<<name<<":"<<endl;

for(int i=0;i<va.size();i++)

{

cout<<va[i]<<" ";

}

cout<<endl;

}

int main ()

{ // foo: bar:

std::valarray<int> foo (4); // 0 0 0 0

std::valarray<int> bar (2,4); // 0 0 0 0 2 2 2 2

foo = bar; // 2 2 2 2 2 2 2 2

cout<<"~~~~~~~~~"<<endl;

PrintValarray<int>(foo,"foo");

PrintValarray<int>(bar,"bar");

bar = 5; // 2 2 2 2 5 5 5 5

cout<<"~~~~~~~~~"<<endl;

PrintValarray<int>(foo,"foo");

PrintValarray<int>(bar,"bar");

foo = bar[std::slice (0,4,1)]; // 5 5 5 5 5 5 5 5

cout<<"~~~~~~~~~"<<endl;

PrintValarray<int>(foo,"foo");

PrintValarray<int>(bar,"bar");

return 0;

}

[result]

~~~~~~~~~

foo:

2 2 2 2

bar:

2 2 2 2

~~~~~~~~~

foo:

2 2 2 2

bar:

5 5 5 5

~~~~~~~~~

foo:

5 5 5 5

bar:

5 5 5 5

[ref]

<https://cplusplus.com/reference/valarray/valarray/operator=/>