**Array**

* One-dimensional array:

1. Function:

* Dùng để khai báo nhiều biến hơn, tiện lợi hơn.
* Một phần tử của mảng là 1 biến.

1. Syntax:

<datatypes> <Array name>[number]={value};

* 1 number = 1value.
* Cách khai báo mảng nhiều:

Dùng vòng lặp for:

* Khai báo tay:

For (int I; i<=number; i++)

{

Cin>>A[i];

}

* Tự khởi tạo random:

For (int I; i<=number; i++)

{

A[i]=rand(); //khởi tạo ngẫu nhiên Srand()

Or A[i]=rdf(); // khởi tạo ngẫu nhiên random\_device;

}

1. Notes:

* Mảng có thể thay đổi nội dung khi truyền vào hàm.
* Khi truyền vào hàm thì hàm chỉ ghi nhớ địa chỉ của 1 phần tử đầu tiên của mảng.
* 2-Dimentional array:

1. Function:

* Contain more arrays, it is so handi, but it is quite complicated.
* It is easier to manage than 1-dimentional arrays.
* We have consider it like 1 a table, include of A[row][col]
* Front is rows, behind is columns.

1. Syntax:

Int A[row][col];

Int A[][col];

Int \*c[col];

It must have columns, because columns is 1-dimentional array.

We have use 2 loop to enter 2-dinmentional arrays, or declar by random initialization.

Ex: for (int i=0; i<col; i++)

{

For (int j=0; j<row; j++)

{

Cin>>A[i][j];

// or A[i][j]= rand();

}

}

1. Notes : Don’t forget use columns, and if declaration or definition in function we must to use reference(&) or dereference(\*) to save local variable in the function into main().

* Char-Dimentional:

1. Function:

* Use like string.
* It have many function compare with string.

1. Syntax:

Char chr[]=’char‘,……;

Like normal dimentional.

1. Some syntax of char-dimentional:

* Input in char-dimentional from keyboard:

Use cin.getline(s1, sizeof(s1));

Note\*: be careful about cache.

* Memset(s1,’char’,num); : set num ‘char’ first.
* Output char-dimentional to the screen:

Cout<<s1;

* Length:

Strlen(dimentional);

* Uppercase, lowercase:

Uppercase : \_strupr\_s();

Lowercase : \_strlwr\_s();

* Copy 2 dimentional:

Strcpy\_s(dementional\_dest, sizeof(dest), dementional\_soure);

* Concatenate 2 array:

Strcat\_s(C.Dest, sizeof(dest), C.soure);

Conect soure dimentional into Dest dimentional.

* Compare 2 dimentional:

Strcpr(s1,s2);

If (strcpr>0)

S1>s2;

Else (strcpr==0) s1=s2;

Else (strcpr<0) s1<s2;

Compare follow ASCII table, it usually use to distinguish lowercase and uppercase(lowercase > uppercase in ASCII).

* Find dimentional s1 into s2:

Strstr(s1,s2);

If it can be found, it will return a string s2, else it will be return value “NULL”.

* Library: Array (only 1-dimentional array)

1. Function

* It so more handier than the way use array normal.
* It not use point to data stores, so we can uses the for each loops, size().
* Have so much function support.

1. Syntax:

#include<array>

Array <datatypes, number> name.array;

Ex: array <int, 10> a;

1. Notes:

* Initialization: when you re-initialize, the array will take this initialization, and return every value in previous initialization equal 0, so if we missing initialization, the value hasn’t initialized yet will return zero.(the rest, we can initialize in a normal way).
* When we transmit array into function we uses syntax like initialization.

Ex: void transmit(array<int, 5> a)