she talked about her company, what kind of positions is opening.(could write down on the note)

which type I prefer? Only coding only or coding with consulting?(I need to ask more detail about each type of job)

michael

Difference between passing by reference and by value

<https://courses.washington.edu/css342/zander/css332/passby.html>

passing by address:  a copy of the address of the actual parameter is stored. Use pass by reference when you are changing the parameter passed in by the client program.

passing by value:  means you are making a copy in memory of the actual parameter's value that is passed in, a copy of the contents of the actual parameter. Use pass by value when when you are only "using" the parameter for some computation, not changing it for the client program. .

the types of loops. (while, do while, for, nested loop)

If people do not know about inheritance, how do you explain the concept to them.

<https://www.programiz.com/cpp-programming/inheritance>

* + 1. Object-oriented programming in C++;
    2. to create a new [class](https://www.programiz.com/cpp-programming/object-class) (derived class) from an existing class(base class).
    3. The derived class inherits all the features from the base class and can have additional features of its own.
    4. It is important to remember: When working with inheritance, each derived class should satisfy the condition whether it "is a" base class or not. In the example above, Maths teacher is a Person, Footballer is a Person. You cannot have: Businessman is a Business.

<http://bigocheatsheet.com/>

C:\Users\Yu\AppData\Local\Temp\%W@GJ$ACOF(TYDYECOKVDYB.pnghttps://projecteuler.net/archives // sample questions.

Interview question

**memset**( pointer, size, valueperbyte )

就是把从pointer开始 到size这么大的memory, 每一个byte都设成 valueperbyte的值

**memcpy**( b, a, sizeof( int ) \* 100 )  
就是把一块memory 直接复制到另一块memory, size自己定 超快, 比for 快很多

char source[] = "once upon a midnight dreary...", dest[4];

std::memcpy(dest, source, sizeof dest); // dest: once // only the size of dest. 4 byte.

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int n;   
if (n == 10) // 第一种判断方式   
if (10 == n) // 第二种判断方式  
哪种对, 如果都对 哪种更好

the second one is better.

If you miss = , the second one will not compile.

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Void test1()   
{   
 char string[10];   
 char \*str1="0123456789";  
 strcpy(string, str1);   
}

What wrong with this function?

Do not have enough memory, because will have a empty char at the end.

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Char a = -1, is it ok, if ok, what is the memory. // if it is char, it is 1byte ff

0000 0001->1111 1110+1->1111 1111 ->FF

6 is 4 byte.

FFFF FFFF

FFFF FFFE

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Depth First Tree Traversal是什么 Breadth First Tree Traversal

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threading里面的 dead lock是什么

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implement一个除法, 不用/ 除号, 用列竖式的原理

Bit manipulation. Shift.

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有个bool的array 长度64, 能把这个bool array存在两个int里面吗?

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怎么找一个single linked list的中点?

第一个pointer走一步第二个pointer走两步

走到头了 第一个pointer 就是中点

if ( second->next != null )

{

second = second->next;

if ( second->next != null )

{

second = second->next;

first = first->next;

}

else

{

the midPoint is the firstP->value and the firstP->next->value;

return;

}

}

else

{

the midPoint is the firstP;

return;

}

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new 和 malloc 区别

new 是一个pointer 没有size， malloc 要有size 吧？

new 就是 allocate mamory的同时还call constructor, 但是 malloc只 allocate memory

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最后一个问题 如果有个 parent class 有个 child class, 那么destructor 为什么要是virtual的

When you create, it is at son class. So need to delete son destructor first.

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等差数列 1+2+3+….. 100

100+99+98……1

(1+100)\*100/2

(1+n)\*n/2

(N+n^2)/2

1+3+5+……+99.

1+2\*m = 99

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C:

no class in c(no constructor).

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Instantiate: create a new object called instantiate.

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Class: default access specifier is private.

Struct: default access specifier is public.

The size of empty class is 1 byte.

The size of class equal to the total private member together (not the public).

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int \*p = 0x90, the next pointer address will be 0x94

byte \*p= 0x90, the next pointer address will be 0x91

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Always remember if you have if then need to have else.

Always check the situation. Before you do you other process. Like if (a <0){ return false}

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**Why use using namespace std?**

All the variable or functions included in namespace std, we will use it.

If you define the same name variable or function in your class. The compiler do not know which one you are using.

So the namespace std avoid duplicate name.

Namespace std control all the include libarary: queue, stack, list…ect.

#include<queue>

Template<class T>

Class queue

{

T a;

}

Int main()

{

Queue<int > a;

Std::queue<int>a;

Return 0;

}

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给你出一个题 已知 rand() 可以generate a number from 0 to 65536, please use this function to generate randome number in { 10, 20, 30, 40, 50 }

 for ( int i = 0; i < 10; i++ )  
    {  
        a = rand() % 5;  
        a = ( a + 1 ) \* 10;  
        std::cout << a << std::endl;  
    }

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再给你出个题 a \* 67 这个式子 不用乘法 不用loop 你能换一种写法吗

a<<6 +a<<1+1;

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hashtable 原理, hashing是什么, 怎么就直接能在array里找到一个key对应的位置

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3. depth first traverse tree, 和 breath first traverse tree

Depth: preorder, inorder, and postorder.

Breath: step for each lever. Cout<<node, and the put it next to the queue. And then pop out the node. End the queue is empty.

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4. pre order in order post order traverse tree

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5. smartpointer

auto\_ptr<student> aptr( new student( "Bob", "Smith", "CIS29", "4.0" ) );

unique\_ptr<student> uptrA( new student( "Bob", "Smith", "CIS29", "4.0" ) );

unique\_ptr is autoptr’s replacement

//unique\_ptr<student> uptrB = uptrA; // compile error - creates copy

unique\_ptr<student> uptrB = move( uptrA );

unique\_ptr<student> uptrC = static\_cast<unique\_ptr<student>&&>( uptrA );

shared\_ptr<student> sptrA( new student( "Alan", "Johnson", "CIS29", "4.0" ) );

shared\_ptr<student> sptrB = sptrA;

shared\_ptr<student> sptrC = sptrB;

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怎么知道int a 能否被int b整除

a%b==0

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在一个字符串中找到第一个只出现一次的字符。如输入abaccdeff，则输出b。

S[char]++

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输入一个整数，求该整数的二进制表达中有多少个1。

例如输入10，由于其二进制表示为1010，有两个1，因此输出2。

Check until 32 bit

Use check function.

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在从1到n的正数中1出现的次数

题目：输入一个整数n，求从1到n这n个整数的十进制表示中1出现的次数。

例如输入12，从1到12这些整数中包含1 的数字有1，10，11和12，1一共出现了5次。

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什么是deadlock

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From string to char.

String mystring=”fkdjfkd”;

char \* p = mystring.c\_str;

defind a pointer to an array.

char \*p="abcdefg";

string a = p; //output: abcdefg

int to string

to\_string(14);

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Peek equal to top