



C/C++工程师能力评估

一. 单项选择题

1.

下面描述正确的是

```
int *p1 = new int[10];  
int *p2 = new int[10]();
```

- A p1和p2申请的空间里面的值都是随机值
- B p1和p2申请的空间里的值都已经初始化
- C p1申请的空间里的值是随机值，p2申请的空间里的值已经初始化
- D p1申请的空间里的值已经初始化，p2申请的空间里的值是随机值

2.

下面的程序可以从0...n-1中随机等概率的输出m个不重复的数。这里我们假设n远大于m

```
knuth(int n, int m)  
{  
    srand((unsigned int)time(0));  
    for (int i = 0; i < n; i++) {  
        if ( ) {  
            cout << i << endl;  
            ( );  
        }  
    }  
}
```

- A $\text{rand}() \% (n-i) \leq m$ m--
- B $\text{rand}() \% (n-i) < m$ m--
- C $\text{rand}() \% (n-i) \geq m$ m++
- D $\text{rand}() \% (n-i) > m$ m++

3.

以下prim函数的功能是分解质因数。括号内的内容应该为?

```
void prim(int m, int n)  
{  
    if (m >= n)  
    {  
        while ( ) n++;  
        ( );  
        prim(m, n);  
        cout << n << endl;  
    }  
}
```



```
}  
}
```

- A $m/n \ m/=n$
- B $m/n \ m\%=n$
- C $m\%n \ m\%=n$
- D $m\%n \ m/=n$

4.

```
enum string{  
    x1,  
    x2,  
    x3=10,  
    x4,  
    x5,  
} x;
```

函数外部问x等于什么?

- A 5
- B 12
- C 0
- D 随机值

5.

```
unsigned char *p1;  
unsigned long *p2;  
p1=(unsigned char *)0x801000;  
p2=(unsigned long *)0x810000;
```

请问 $p1+5=$ 什么?

$p2+5=$ 什么?

- A 801005 810005
- B 801010 810014
- C 801005 810014
- D 801010 810015

6. 在32位机器中, 如下代码:

```
void example(char acWelcome[]){  
    printf("%d",sizeof(acWelcome));  
    return;  
}  
void main(){
```



```
char acWelcome[]="Welcome to Huawei Test";  
example(acWelcome);  
return;  
}
```

的输出是?

- A 0
- B 4
- C 23
- D 24

7. 下面关于虚函数和函数重载的叙述不正确的是

- A 虚函数不是类的成员函数
- B 虚函数实现了C++的多态性
- C 函数重载允许非成员函数，而虚函数则不行
- D 函数重载的调用根据参数的个数、序列来确定，而虚函数依据对象确定

8. 处理a.html文件时，以下哪行伪代码可能导致内存越界或者抛出异常（）

```
int totalBlank = 0;  
int blankNum = 0;  
int taglen = page.taglst.size();  
A for(int i = 1; i < taglen-1; ++i)  
  {  
    //check blank  
    B while(page.taglst[i] == "<br>" && i < taglen)  
      {  
        C ++totalBlank;  
        D ++i;  
      }  
    E if(totalBlank > 10)  
      F blankNum += totalBlank;  
    G totalBlank = 0;  
  }  
}
```

注意：以下代码中taglen是html文件中存在元素的个数，a.html中taglen的值是15，page.taglst[i]取的是a.html中的元素，例如page.taglst[1]的值是<html>
a.html的文件如下：

```
<html>  
<title>test</title>  
<body>  
<div>aaaaaaaa</div>  
</body>  
</html>  
<br>  
<br>  
<br>
```



- A
- B
- C
- D
- E
- F
- G

9.

```
void Func(char str_arg[100])
{
    printf("%d\n", sizeof(str_arg));
}
int main(void)
{
    char str[]="Hello";
    printf("%d\n", sizeof(str));
    printf("%d\n", strlen(str));
    char*p=str;
    printf("%d\n", sizeof(p));
    Func(str);
}
```

32位系统下下面程序的输出结果为多少?

- A 5 5 4 4
- B 6 5 4 4
- C 6 5 6 4
- D 5 5 5 100

10.

下面程序运行后的结果为:

```
char str[] = "glad to test something";
char *p = str;
p++;
int *p1 = reinterpret_cast<int *>(p);
p1++;
p = reinterpret_cast<char *>(p1);
printf("result is %s\n", p);
```

- A result is glad to test something



- B result is ad to test something
- C result is test something
- D result is to test something

11.

设已经有A,B,C,D4个类的定义，程序中A,B,C,D析构函数调用顺序为？

```
C c;
void main()
{
    A*pa=new A();
    B b;
    static D d;
    delete pa;
}
```

- A A B C D
- B A B D C
- C A C D B
- D A C B D

12. 若char是一字节，int是4字节，指针类型是4字节，代码如下：

```
class CTest
{
public:
    CTest():m_chData('\0'),m_nData(0)
    {
    }
    virtual void mem_fun(){}
private:
    char m_chData;
    int m_nData;
    static char s_chData;
};
char CTest::s_chData='\0';
```

问：

- (1) 若按4字节对齐sizeof(CTest)的值是多少？
- (2) 若按1字节对齐sizeof(CTest)的值是多少？

请选择正确的答案。

- A 16 4
- B 16 10
- C 12 9
- D 10 10



13. 在Java中，以下关于方法重载和方法重写描述正确的是？

- A 方法重载和方法的重写实现的功能相同
- B 方法重载出现在父子关系中，方法重写是在同一类中
- C 方法重载的返回值类型必须一致，参数项必须不同
- D 方法重写的返回值类型必须相同或相容。（或是其子类）

14. 下列给定程序中，函数fun的功能是:求ss所指字符串数组中长度最短的字符串所在的行下标，作为函数值返回，并把其串长放在形参n所指的变量中。ss所指字符串数组中共有M个字符串，且串长小于N。请在程序的下画线处填入正确的内容并将下画线删除，使程序得出正确的结果。试题程序。

```
#define M 5
#define N 20
int fun(char(* ss)[N], int *n)
{
    int i, k = 0, len = N;
    for (i = 0; i < _____; i++)
    {
        len = strlen(ss[i]);
        if (i == 0)
            *n = len;
        if (len _____ * n)
        {
            *n = len;
            k = i;
        }
    }
    return ( _____ );
}
main( )
{
    char ss[M][N] = {"shanghai", "guangzhou", "beijing", "tianjing",
"chongqing"};
    int n, k, i;
    printf("\nThe original strings are:\n");
    for (i = 0; i < M; i++)
        puts(ss[i]);
    k = fun(ss, &n);
    printf("\nThe length of shortest string is: % d\n", n);
    printf("\nThe shortest string is: % s\n", ss[k]);
}
```

- A $N < k$
- B $N > k$
- C $M < k$
- D $M > k$



15. 写出下面程序的输出结果

```
class A
{
public:
void FuncA()
{
    printf( "FuncA called\n" );
}
virtual void FuncB()
{
    printf( "FuncB called\n" );
}
};
class B : public A
{
public:
void FuncA()
{
    A::FuncA();
    printf( "FuncAB called\n" );
}
virtual void FuncB()
{
    printf( "FuncBB called\n" );
}
};
void main( void )
{
    B b;
    A *pa;
    pa = &b;
    A *pa2 = new A;
    pa->FuncA(); ( 3)
    pa->FuncB(); ( 4)
    pa2->FuncA(); ( 5)
    pa2->FuncB();
    delete pa2;
}
```

- A FuncA called FuncB called FuncA called FuncB called
- B FuncA called FuncBB called FuncA called FuncB called
- C FuncA called FuncBB called FuncAB called FuncBB called
- D FuncAB called FuncBB called FuncA called FuncB called

16.

In the main() function, after ModifyString(text) is called, what's the value of 'text'?



```
int FindSubString( char* pch )
{
    int    count = 0;
    char * p1   = pch;
    while ( *p1 != '\0' )
    {
        if ( *p1 == p1[1] - 1 )
        {
            p1++;
            count++;
        }else {
            break;
        }
    }
    int count2 = count;
    while ( *p1 != '\0' )
    {
        if ( *p1 == p1[1] + 1 )
        {
            p1++;
            count2--;
        }else {
            break;
        }
    }
    if ( count2 == 0 )
        return(count);
    return(0);
}

void ModifyString( char* pText )
{
    char * p1   = pText;
    char * p2   = p1;
    while ( *p1 != '\0' )
    {
        int count = FindSubString( p1 );
        if ( count > 0 )
        {
            *p2++ = *p1;
            sprintf( p2, "%i", count );
            while ( *p2 != '\0' )
            {
                p2++;
            }
            p1 += count + count + 1;
        }else {
            *p2++ = *p1++;
        }
    }
}

void main( void )
```




```
{
    char text[32] = "XYBCDCBABABA";
    ModifyString( text );
    printf( text );
}
```

- A XYBCDCBABABA
- B XYBCBCDAIBAA
- C XYBCDCBAIBAA
- D XYBCDDAIBAB

17. 下面程序的功能是输出数组的全排列。请填空。

```
void perm(int list[], int k, int m)
{
    if (    )
    {
        copy(list, list+m, ostream_iterator<int>(cout, " "));
        cout<<endl;
        return;
    }
    for (int i=k; i<=m; i++)
    {
        swap(&list[k], &list[i]);
        (    );
        swap(&list[k], &list[i]);
    }
}
```

- A $k \neq m$ 和 `perm (list, k+1, m)`
- B $k == m$ 和 `perm (list, k+1, m)`
- C $k \neq m$ 和 `perm (list, k, m)`
- D $k == m$ 和 `perm (list, k, m)`

18.

写出下列程序的运行结果。

```
#include "stdio.h"
int sum(int a)
{
    auto int c = 0;
    static int b = 3;
    c += 1;
    b += 2;
    return (a + b + c);
}
int main()
```



```
{
    int i;
    int a = 2;
    for (i = 0; i < 5; i++)
    {
        printf("%d,", sum(a));
    }
}
```

- A 6, 8, 10, 12, 14,
- B 8, 10, 12, 14, 16,
- C 10, 12, 14, 16, 18
- D 12, 14, 16, 18, 20

19.

```
#include<iostream>
using namespace std;
class MyClass
{
public:
    MyClass(int i = 0)
    {
        cout << i;
    }
    MyClass(const MyClass &x)
    {
        cout << 2;
    }
    MyClass &operator=(const MyClass &x)
    {
        cout << 3;
        return *this;
    }
    ~MyClass()
    {
        cout << 4;
    }
};
int main()
{
    MyClass obj1(1), obj2(2);
    MyClass obj3 = obj1;
    return 0;
}
```

运行时的输出结果是 ()



- A 11214444
- B 11314444
- C 122444
- D 123444

20.

如下代码输出结果是什么？

```
#include<stdio.h>
char *myString()
{
    char buffer[6] = {0};
    char *s = "Hello World!";
    for (int i = 0; i < sizeof(buffer) - 1; i++)
    {
        buffer[i] = *(s + i);
    }
    return buffer;
}
int main(int argc, char **argv)
{
    printf("%s\n", myString());
    return 0;
}
```

- A Hello
- B Hello World!
- C Well
- D 以上全部不正确



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