

考試科目	計算機概論	所別	資管所	考試時間	3月15日 星期日 第一節
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1. Given the following code:

```
#include <iostream>

int f(int);

void main(void) {

    cout << " f(7) = " << f(7) << endl;
    cout << " f(5) = " << f(5) << endl;
    cout << " f(-1) = " << f(-1) << endl;
}

int f(int number) {
    int temp;

    if(number <= 1) return 1;

    temp = number * f(number - 1);
    return temp;
}
```

- a) What is the output of the program? (20%)
- b) Is f a recursive function? If so, rewrite f so that f is non-recursive. If not, rewrite f so that f is recursive. (30%)

2. Given the following code:

```
class Point {
public:
    int getX();
    int getY();
private:
    int x;
    int y;
};
```

Write a default constructor for class Point. (25%)

備考	試題隨卷繳交
命題委員：	(簽章)

命題紙使用說明：1. 試題將用原件印製，敬請使用黑色墨水正楷書寫或打字（紅色不能製版請勿使用）。  
 2. 書寫時請勿超出格外，以免印製不清。  
 3. 試題由郵寄遞者請以掛號寄出，以免遺失而示慎重。

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3. Given the following code:

```
#include <iostream>

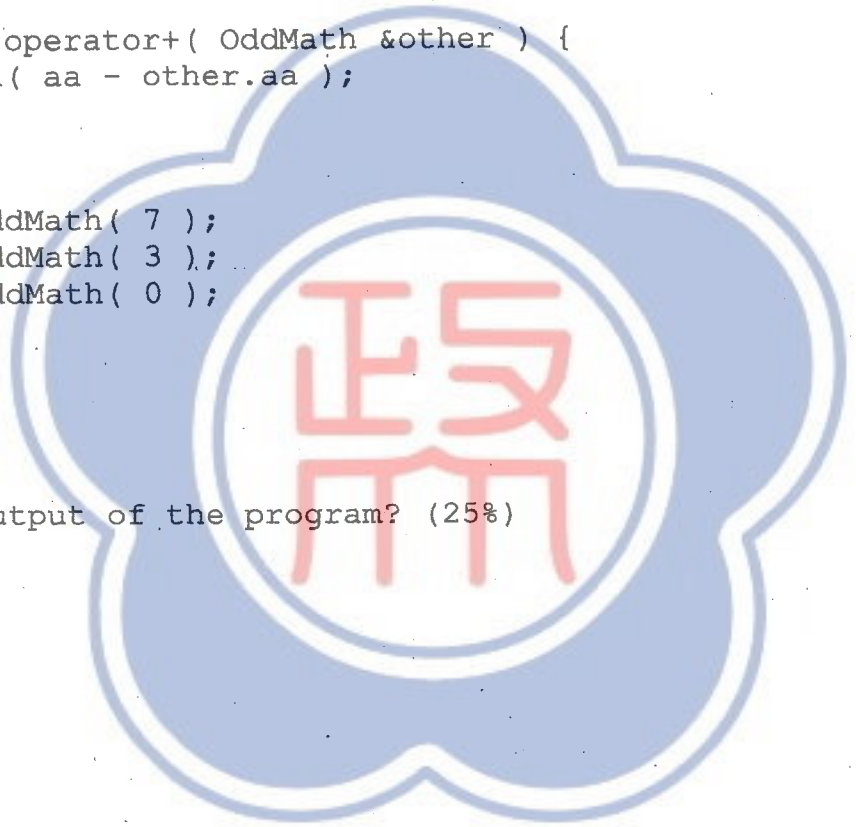
struct OddMath {
    OddMath( int a ) : aa(a) {}
    OddMath operator+( OddMath &other );
    void Display( ) { cout << aa << endl; }
private:
    int aa;
};

OddMath OddMath::operator+( OddMath &other ) {
    return OddMath( aa - other.aa );
}

int main() {
    OddMath x = OddMath( 7 );
    OddMath y = OddMath( 3 );
    OddMath z = OddMath( 0 );

    z = x + y;
    z.Display();
}
```

What is the output of the program? (25%)



備考	試題隨卷繳交
命題委員：	(簽章)

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考試科目	管理資訊系統	所別	資訊管理	考試時間	3月15日 星期日	第3節
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1. Please define the following terms and describe their importance to MIS (Management Information Systems) (40%):

- A. Capability Maturity Model Integration (CMMI)
- B. Service-Oriented Architecture (SOA)
- C. Information Technology Infrastructure Library (ITIL)
- D. ISO 27001

2. Supply chain agility has become more critical in the past few years because sudden shocks to supply chains have become frequent. The terrorist attack in New York in 2001 and the SARS epidemic in Asia in 2003, for instance, disrupted many companies' supply chains. Without a doubt, companies with agile supply chains recover quickly from sudden setbacks. In September 1999, an earthquake in Taiwan delayed shipments of computer components to the United States by weeks and, in some cases, by months. Most PC manufacturers, such as Compaq, Apple, and Gate-way, couldn't deliver products to customers on time and incurred their wrath. One exception was Dell, which changed the prices of PC configurations overnight. That allowed the company to steer consumer demand away from hardware built with components that weren't available toward machines that didn't use those parts. *(to be continued in the next page)*

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備 考 試 題 隨 卷 繳 交

命 題 委 員 :

( 簽 章 )

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考試科目	管理資訊系統	所別	資訊管理	考試時間	3月15日 星期日	第3節
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Dell could do that because it got data on the earthquake damage early, sized up the extent of vendors' problems quickly, and implemented the plans it had drawn up to cope with such eventualities immediately. Please list THREE key IS (information systems) or IS-enabled methods that can help companies build agility into supply chains and justify your answers. (30%)

3. The surveys have shown that the most important attribute of e-tailers to Web shoppers was "a Web site I know and trust." All other attributes, including lowest cost and broadest selection, lagged far behind. When customers do trust an on-line vendor, they are much more likely to share personal information. That information enables the company to form a more intimate relationship with customers, offering products and services tailored to their individual preferences, which in turn increases trust and strengthens loyalty.

Amazon.com, for example, has come to dominate the on-line book market by creating the most reliable and trustworthy Web site in the business. Millions of customers feel comfortable letting Amazon store their names, addresses, and credit card numbers in its ordering system. The resulting convenience that customers can make repeat purchases with just one-click has become a critical competitive edge. It's one of the biggest reasons customers keep coming back.

If you were an E-Commerce operator, how do you make your customers trust your website? Please list the most important THREE operational strategies for building on-line trust and justify your answers (30%).

備 考 試 題 隨 卷 繳 交

命 題 委 員 :

( 簽 章 )

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考試科目	微積分	所別	資訊管理學系	考試時間	3月15日 星期日	第3節
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1. (20%) Compute

(a)  $\lim_{\theta \rightarrow 0} \frac{\sin \theta}{\theta}$

(b)  $\lim_{\theta \rightarrow 0} \frac{1 - \cos \theta}{\theta}$

2. (20%) Let  $t = -0.5$ , compute

(a)  $1 + 2t + 3t^2 + 4t^3 + \dots$

(b)  $1 + \frac{t}{1!} + \frac{t^2}{2!} + \frac{t^3}{3!} + \dots$

3. (50%) Let  $\lambda > 0$  and  $f(x) = \lambda e^{-\lambda x}$

(a) Compute  $f'(1)$  and  $f'(2)$ .

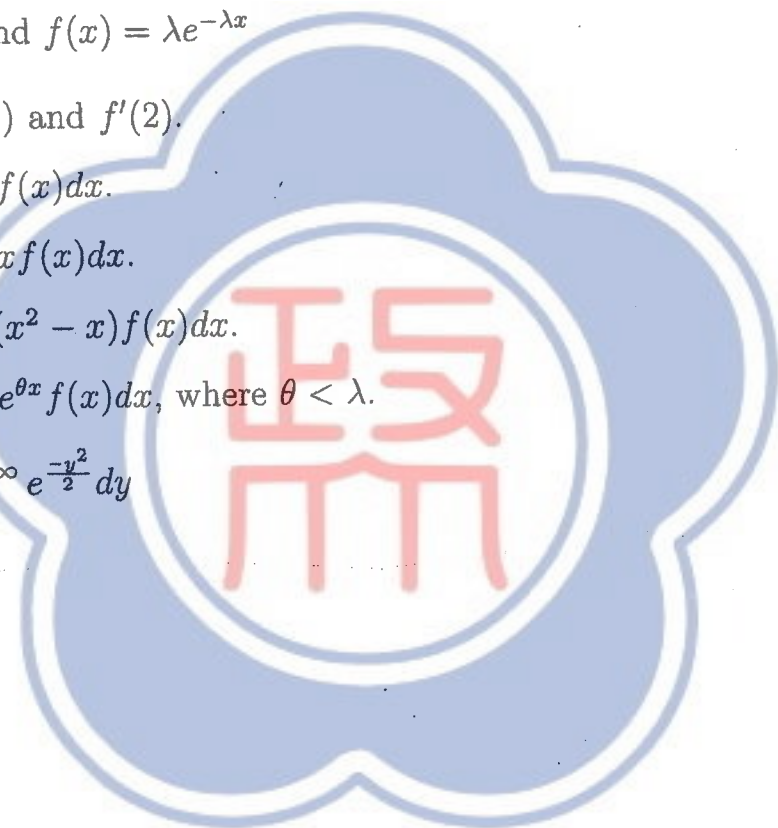
(b) Compute  $\int_0^{\infty} f(x) dx$ .

(c) Compute  $\int_0^{\infty} x f(x) dx$ .

(d) Compute  $\int_0^{\infty} (x^2 - x) f(x) dx$ .

(e) Compute  $\int_0^{\infty} e^{\theta x} f(x) dx$ , where  $\theta < \lambda$ .

4. (10%) Compute  $\int_0^{\infty} e^{-\frac{y^2}{2}} dy$



備 考 試 題 隨 卷 繳 交

命 題 委 員 :

( 簽 章 )

命題紙使用說明：1. 試題將用原件印製，敬請使用黑色墨水正楷書寫或打字（紅色不能製版請勿使用）。  
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