

# 淡江大學 102 學年度日間部轉學生招生考試試題

系別：資訊工程學系三年級

科目：程式語言

考試日期：7月24日(星期三) 第5節

本試題共 9 大題， 3 頁

1. The following statements is using the language of C, print out the result of x and y. (10%)

int x; float y;

Print out the value of x	Print out the value of y
(a) x = 9 / 2;	(f) y = 9 / 2;
(b) x = 9 / 2.0F;	(g) y = 9 / 2.0F;
(c) x = (float)9 / 2;	(h) y = (float)9 / 2;
(d) x = 9 / 2 + 0.5;	(i) y = 9 / 2 + 0.5;
(e) x = 9.0F / 2 + 0.5;	(j) y = 9.0F / 2 + 0.5;

2. Evaluating the following expressions. (10%)

(a) 29 / 3 (b) 20 - 14 / 4 \* 2 (c) 4 - 5 % 9 (d) 28 - 5 / 2.0 (e) 30 / (int)(6 \* 1.2)

3. Suppose x, y and z are integer variables. If x = 10, y = 20, what value is assigned to each of these variables after the statement executes? Print out the result of x, y and z. (15%)

(a) z = (++x) + (y++); (b) z = (x--) + y(--); (c) z = 2 \* (x++); (d) z = 10 + (x++); (e) z = 10 + (x++);

4. The follow formula converts a temperature in Fahrenheit(F) to its equivalent in Celsius(C):

$$C = 5/9(F - 32)$$

Write a code for this formula C. (5%)

5. What are the outputs of the following programs? (10%)

```
#include <iostream>
using namespace std;
void A(int );
void B(int );
void C(int);
void A(int n)
{
    cout<<"A(): n = "<<n<<endl;
    if((n%10)==0) B(n);
    cout<<"A():terminated"<<endl;
}
void B(int n)
{
    cout<<"B(): n = "<<n<<endl;
    if(n>100) C(n/100);
    cout<<"B():terminated"<<endl;
}
```

```
void C(int n)
{
    cout<<"C(): n = "<<n<<endl;
    if(n>0) A(n);
    cout<<"C():terminated"<<endl;
}
int main()
{
    int point = 200;
    A(point);
    cout<<"point = "<<point<<endl;
    return 0;
}
```

本試題雙面印刷

52-2

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**6. Using switch-case to rewrite the following programs. (10%)**

(a)  
if(money>=20000)  
    discount = 0.3;  
else  
    if(money>=10000)  
        discount = 0.2;  
    else  
        if(money>=5000)  
            discount = 0.1;

(b)  
if(point==1)  
    cout<<"light";  
else  
    if((point==2) || (point==3))  
        cout<<"normal";  
    else  
        cout<<"heavy";

**7. What's the different between the following segments (a) and (b)? (10%)**

(a)  
#define SUNDAY 7  
if(day = SUNDAY)  
    cout<<"Today is Sunday"<<endl;  
else  
    cout<<"Working day"<<endl;

(b)  
#define SUNDAY 7  
if(day == SUNDAY)  
    cout<<"Today is Sunday"<<endl;  
else  
    cout<<"Working day"<<endl;

**8. What are the outputs of the following recursive programs? (10%)**

```
#include <iostream>
using namespace std;
void Print(int);
void Print(int n)
{
    if(n<=0) return;
    cout<<0<<endl;
    Print(n-1);
    cout<<1<<endl;
}
int main()
{
    Print(3);
    return 0;
}
```

52-3

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9. Give the output after execution of each statement, assume the addresses of array data is 0x3200, sizeof(int) = 4.(20%)

```
int data[] = {10,20,30,40,50,60};
int *p = data;
cout<<"data = "<<data<<endl;
cout<<"data[1] = "<<data[1]<<endl;
cout<<"&data[1] = "<<&data[1]<<endl;
cout<<"p = "<<p<<endl;
cout<<"*p = "<<*p<<endl;
```

```
cout<<"p+2 = "<<p+2<<endl;
cout<<"*p+2 = "<<*p+2<<endl;
cout<<"(*p+2) = "<<(*p+2)<<endl;
cout<<"*(p+2) = "<<*(p+2)<<endl;
cout<<"p[2] = "<<p[2]<<endl;
```