

姓名：

C 語言 基礎評量

1. 寫出主程式的輸出為何?

```
#include <stdio.h>

int main()
{
    unsigned char a=38,b=49;
    a ^= b;  b ^= a;  a ^= b;
    printf("a=%d , b=%d\n", a,b );

    return 0;
}
```

2. 寫出主程式的輸出為何?

```
main()
{
    char p;
    char buf[] ={'i','t','t','r','a','i','n','i','n','g'};
    p = (buf+1)[3];
    printf("%c" , p);
}
```

3. 請寫出陣列 a 的內容為何?

```
void foo(int [][][3]);
main()
{
    int a [3][3]= { { 1,2,3} , { 4,5,6},{7,8,9}};
    foo(a);
    /*程式執行至此，請問陣列 a 的內容為何?*/
}

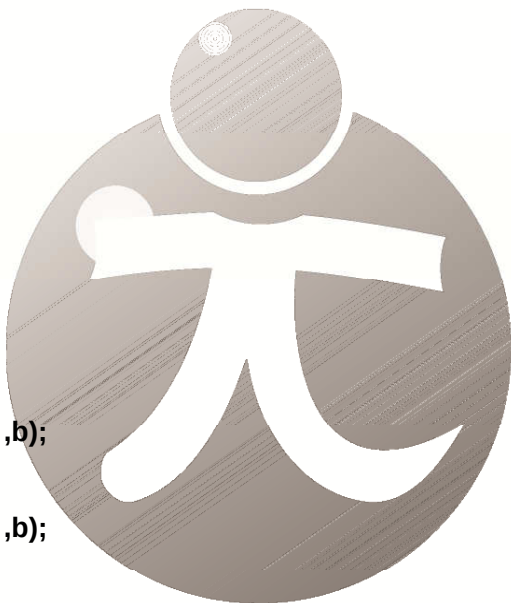
void foo( int b[][][3])
{
    ++ b;
    b[1][1] =100;
}
```

4. 寫出主程式的輸出為何?

```
void f1(int *, int);  
void(*p[2]) ( int *, int);  
void f1( int* p , int q)  
{  
    int tmp;  
    tmp =*p;  
    *p = q;  
    q= tmp;  
}
```

```
int main()  
{  
    int a;  
    int b;
```

```
    p[0] = p[1] = f1;  
    a=5; b=10;  
    p[0](&a , b);  
    printf("%d\t %d\t" , a ,b);  
    p[1](&a , b);  
    printf("%d\t %d\t" , a ,b);  
}
```



5. 寫出主程式的輸出為何?

```
void foo(int );
```

```
main()  
{  
    int a=3;  
    foo(a);  
}
```

```
void foo(int n)
{
    if(n>0)
    {
        foo(--n);
        printf("%d" , n);
        foo(n--);
    }
}
```

6. 寫一行 C 程式碼將變數 X (8bit) 的 LSB (least-significant bit) 的值清除為 0 ?

7. 寫一行 C 程式碼可將實體記憶體位址 0x9F3C 寫入值 0x55AA .

8. 寫一個函式可將陣列的值輸出，輸出方式為 bit 為 1 時輸出 '*', 否則輸出空白字元 ' ', 每處理完一個 byte 輸出換行 '\n'

```
static unsigned char font[]=
{
    0x38,
    0x6c,
    0xc6,
    0xfe,
    0xc6,
    0xc6,
    0xc6,
    0xc6,
    0x00
};
```

9. Write a routine that rotates the bit pattern for the character *c* left *b* bits.

unsigned char rol (unsigned char c, unsigned char b);

ex. k=rol(0xa3,2); k→0x8e

10. 寫出主程式的輸出為何?

```
#include <stdio.h>

void foo(int *a, int r, int n)
{
    int k=a[r];
    int j;
    for(j=2*r+1; j<=n; j=j*2+1)
    {
        if (j<n)
            if (a[j+1]>a[j]) j++;
        if (k>=a[j]) break;
        a[(j-1)/2]=a[j];
    }
    a[(j-1)/2]=k;
}

int main(void)
{
    int i,j;
    int b[10]={4,7,1,5,15,12,9,6,3,8};
    int n=10;
    n=n-1;
    for(i=(n-1)/2; i>=0; i--)
        foo(b, i, n );

    for(j=0; j<10; j++)
        printf("%d\t",b[j]);

    printf("\n");
}
```

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