

## 計算機概論 試題

(限用答案本作答)

1. (10%) Express each of the following values in binary notation.  
(a) 5.75      (b) 1.25
2. (10%) Convert each of the following base ten representations to its equivalent two's complement representation in which each value is represented in 8 bits.  
(a) -27      (b) 27
3. (10%) What is the value in variable  $x$  after executing the following C code?  
int x, y, \*ip, \*iq;  
x = 3;  
y = x + 2;  
ip = &x;  
iq = ip;  
\*iq = \*ip + y;
4. (10%) What do dpi and bps stand for? Give some example devices that use dpi as a measure. Also give some examples that use bps as a measure.
5. (10%) What are the three steps in a machine cycle? Briefly but clearly explain the operation in each step.
6. (10%) If a floppy disk is rotating at 300 revolutions per minute and the machine can execute 50 instructions in a microsecond. How many instructions can the machine perform during the disk's latency time?
7. (10%) What is a URL? A browser?
8. (10%) List the main characteristics of an object-oriented programming language.
9. (10%) What is the difference between compiler and interpreter?
10. (10%) Consider the following recursive function  
long fib(logn n)  
{  
    if ( n == 0 || n == 1) return n;  
    else return fib(n-1) + fib(n-2);  
}

  - (a) What is the value return by the function call fib(10)?
  - (b) How many function calls to fib resulted by the call to fib(10)?

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