

科目：計算機概論(含程式設計) 適用：資管系二

考生注意：1. 依次序作答，只要標明題號，不必抄題。
 2. 答案必須寫在答案卷上，否則不予計分。
 3. 試題隨卷繳回。

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一、單選題 (28%)

- Which is not a correct statement in C?
 (a) ++x; (b) x+=2; (c) x+=2; (d) 2+=x;
- Which XML representation is not valid?
 (a) <book id="123">The Bible</book>
 (b) <book><title>The Bible</title><id>123</id></book>
 (c) <book><title>The Bible<id>123</id></title></book>
 (d) <book><title>The Bible<id>123</title></id></book>
- During formatting, tracks are divided into short segments, called
 (a) Subtracks (b) Cylinders (c) Sectors (d) Clusters
- Which process allows some CPUs to execute instructions even faster?
 (a) Pipelining (b) Fetching (c) Storing (d) Writing
- Which IP address can be assigned to a host for public access in the Internet?
 (a) 202.1.0.128 (b) 192.168.0.3 (c) 224.0.1.9 (d) 127.0.0.2
- Which protocol is used to send E-mails?
 (a) MAIL (b) HTTPS (c) SMTP (d) POP3
- Which is not a correct URL?
 (a) bbs://bbs.ncnu.edu.tw/ (b) ftp://anonymous:guest@ftp.ncnu.edu.tw/
 (c) mailto:s910234@ncnu.edu.tw (d) news:tw.bbs.rec.tea
- Microsoft Access is a DBMS of
 (a) Flat-File Database (b) Relational Database (c) Network Database
 (d) Object-Oriented Database
- When an operating system spends much of its time paging, instead of executing application software, it is said to be (a) crashing (b) hashing (c) trashing (d) thrashing
- Which is an authorized organization that issues and verifies digital certificates?
 (a) Certificate Agency (CA) (b) Digital Agency (DA) (c) Certificate Authority (CA)
 (d) Digital Authority (DA)
- Which of the following is not a type of computer bus?
 (a) ANSI (b) AGP (c) USB (d) IEEE 1394
- A row in a database table is called (a) a field (b) an attribute (c) a file (d) a record
- Which languages are referred to as low-level languages?
 (a) Machine and assembly (b) Assembly and third-generation
 (c) Third-generation and fourth-generation (d) Fourth-generation and natural
- Motherboard-resident cache is often called
 (a) Level-1 (L1) (b) Level-2 (L2) (c) Level-3 (L3) (d) Level-4 (L4)

二、填充題 (36%)

- $(011011001111110)_2 = (\quad)_{16}$
- The 16-bit 2's complement representation of -9 is _____.
- 1 MB = _____ KB.

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4. A _____ is a small piece of information that a web server puts on a web client. The information is then sent back to the server each time the client requests a page from the server.
5. _____ is a category of disk arrays that employ two or more drives in combination for fault tolerance and performance.
6. _____ is a microprocessor that is designed to perform a smaller number of types of computer instructions so that it can operate at a higher speed.
7. B2C is one type of e-commerce. B2C stands for _____.
8. Relational databases use a standard query language called _____.
9. DDR SDRAM is a new type of RAM. DDR stands for _____.
10. A _____ server provides a lookup function for the IP address of a host name.
11. A _____ is a key in a relational database that is unique for each record.
12. Authors may use RGB color codes to specify the background color of a HTML page. The RGB representation of white color is _____.

三、程式設計題 (36%)

Note: Programs can be written in C, C++, Java, or Visual Basic.

1. Write a program to generate all the Fibonacci numbers, i.e. (1, 1, 2, 3, 5, 8, 13, ...), less than 50000.
(Note: The i -th Fibonacci number is the sum of the $(i-2)$ th and $(i-1)$ th Fibonacci numbers.)
2. Assume variable *year* stores a number representing a western year A.D. (e.g. 2004). Write a program to determine whether the year is a leap year (閏年). At the end of the program, variable *isLeap* will be set to 1 if the year is a leap year. Otherwise, *isLeap* will be set to 0.
(Leap year: divisible by four except for years which are both divisible by 100 and not divisible by 400.)
3. Function **random()** will generate a random number greater than or equal to 0.0 and less than 1.0. Function **floor(x)** will return the largest integer less than x . Please make use of **random()** and **floor()** to write a program that generates 7 different integers between 15 and 50 (including 15 and 50).