

2017/12/05

# Introduction to Computer Science

## Second Midterm Test

### A. Matching: choose the correct meaning. (25%)

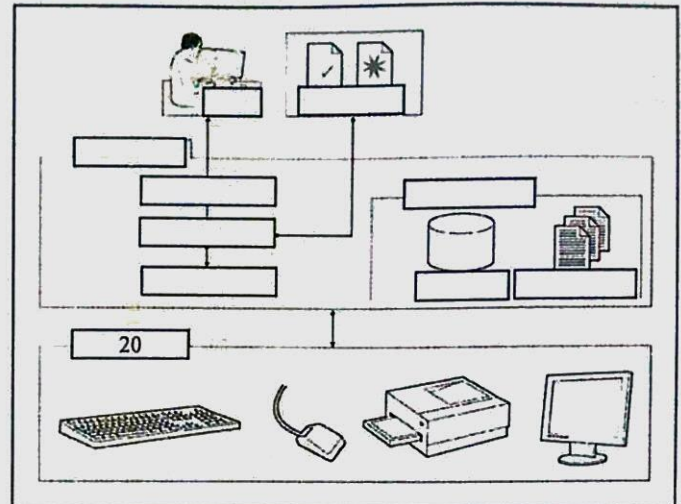
- |                  |                         |
|------------------|-------------------------|
| e 1. SSH         | f 2. DNS server         |
| m 3. drivers     | k 4. IP address         |
| b 5. classes     | s 6. Time sharing       |
| a 7. TCP         | q 8. multiprocessing    |
| w 9. URL         | v 10. Interrupt handler |
| h 11. Compiler   | l 12. pseudocode        |
| r 13. process    | d 14. routers           |
| n 15. Kernel     | p 16. Platform          |
| o 17. precedence | t 18. control structure |
| c 19. DHCP       | i 20. Web server        |
| g 21. NAT        | X 22. port number       |
| u 23. NOS        | j 24. XML               |
| y 25. identifier |                         |

- The protocol that establishes a virtual circuit with the destination computer to transmit packets.
- The name of the groups into which the total pool of IPv4 addresses is separated.
- The protocol that allows assigning each computer an IP address automatically every time it starts.
- The device that can send a packet on another line if the original line is damaged or busy.
- A network protocol exists primarily in Linux and UNIX operating systems.
- A server that maps domain names to IP addresses.
- A protocol that is often used to allow multiple computers to share one Internet connection.
- A program that translates a high level language program into an executable file.
- A computer programmed to respond to HTTP requests.
- An emerging standard for transferring data via the Internet.
- Central to the operation of the IP protocol for both the source and destination computers.
- A more readable description of an algorithm written in human language.
- Interface programs that allow a computer to interact with peripheral devices.
- The core of the OS.
- Control the order in which something in statements is executed
- The computer on which an OS runs and typically ties to a particular CPU.
- A coordinated execution of a process, using two or more CPUs at the same time.
- A small program running on a computer.
- A method of allocating fixed time units to running processes in multitasking.
- An instruction that dictates the order in which statements in a program are executed.
- An operating system that is designed to provide strong network services.
- A program the CPU stops what it's doing and calls when an interrupt occurs.
- The English-like address of a file accessible on the Internet.
- A memory address that a client program specifies for a particular network server program computer to facilitate Network Address Translation.
- Name of a variable or other entity in a program.

### B. Please identify all the parts of a URL like below and give a detail description for each part (Hint: at least 6 parts) (15%)

<http://www.es.ncku.edu.tw:8080/esncku/zh/index.htm>

### C. Please identify all the parts of the relationship between users, operating system, and the platform and give a detail description for each part. (15%)



### D. a). Please discuss the differences between HTML and XML formats and, b). please create an XML example to record the information of all the courses you take in this semester (use as many tags as possible). (15%)

### E. Please use your language (Chinese) to write a pseudocode for finding out the tallest classmate in your class. Please specify your parts of **sequence**, **selection**, and **repetition** control structures. (15%)

### F. Please describe all the elements in the following program in detail. (Hint: Bolded parts) (15%)

```
// Text-printing program.
#include <iostream> // let program output data to the screen
// function main begins program execution
int main()
{
    std::cout << "Welcome to C++!\n"; // display message
    return 0; // indicate that program ended successfully
} // end function main
```

### G. (0%)

輕鬆笑一笑 😊

朋友的妻子管得很嚴，導致他有時候很悶悶。

我就幫他想一個主意：『你老婆那麼兇，我帶你去健身房，你把沙包想成你老婆，然後狠狠的發洩一下，我晚上再過來找你。』

晚上我回到了健身房，健身教練偷偷摸摸的走過來問我：『喂！你那個朋友沒事吧！他對沙包跪了一個下午了...』