**CIS 350 – INFRASTRUCTURE TECHNOLOGIES**

**HOMEWORK # 1**

Group homework: maximum 2 students

Student Name(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Topics: Chapters 1 and 2 (Englander)

Fill out the blanks or circle the right answer for multiple choice or True/False questions. Staple all your work and turn in this homework with the attached pages at the beginning of class on the due day.

Part A.

1. What component (entity) is described by the following abbreviations?
2. 2 GB DDR2 SDRAM \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 2 MB level 2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Wi-Fi \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Core 2 Duo \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. 16 × DVD ±RW \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. WXGA LCD \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. 256 MB PCI Express \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. 160 GB SATA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. USB \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. TCP/IP or HTTP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. HTML \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. TIFF or JPG \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. IBM z/OS or Sun Solaris \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. Conceptually, the CPU can be viewed as a composition of three subunits. List the subunits: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
16. A bundle of wires that can carry signals, power, data, commands, and instructions is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
17. channel
18. bus
19. interface unit
20. communication channel
21. protocol
22. A 4GB memory has exactly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bytes.
23. 4,000,000,000
24. 4,294,967,296
25. 2,147,483,648
26. 4,194,304
27. 1,073,741,824
28. 1,099,511,627,776 bytes is exactly \_\_\_\_\_\_\_\_\_.
29. 100GB
30. 10GB
31. 10TB
32. 1TB
33. 4TB

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contains the most important operating system processing functions.
2. application programming interface
3. user interface
4. file management system
5. I/O driver
6. kernel
7. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stored in ROM loads the remainder of the operating system from disk or network into RAM.
8. application program
9. bootstrap program
10. IPO program
11. embedded program
12. virtual program
13. In the concept of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ computing, each computer can do part of the processing for higher overall efficiency.
14. open
15. closely-coupled
16. loosely-coupled
17. distributed
18. shared
19. In batch systems, a job consisted of card \_\_\_\_\_\_\_\_\_\_\_\_, together with the required \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for each program.
20. What fact made the Unix operating system portable?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The idea that the program instructions and data are both stored in memory while being processed is known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. stored program concept
3. application programming interface
4. user interface
5. distributed computing
6. graphical user interface
7. The links between the components of a system must be physical (True/False).
8. The diagram of a system drawn on paper is very often an abstraction of the real system (True/False).
9. To simplify analysis, understanding, and maintenance of a system, one can decompose the system into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
10. clients
11. servers
12. subsystems
13. peers
14. procedures
15. Anything outside the boundary a system represents the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that the system operates or presents itself within.
16. interface
17. component
18. linkage
19. environment
20. module
21. The relationship between a client and a server in the client-server model can be 1 to 1, 1 to many, or many to many (True/False).
22. How many computers would typically be involved in a four-tier architecture? \_\_\_\_\_\_\_\_\_\_\_\_\_
23. The problem of solving incompatibilities between the application software residing on different computers which have to work together is often assigned to special software called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
24. operating system
25. application program
26. I/O drivers
27. middleware
28. shared server
29. The different types of “*n*-tier architectures” mainly concern distributing the processing load among *n* computers involved (True/False).
30. Google is always eager to reveal the details about the infrastructure technologies that it uses (True/False).

Part B.

1. Describe briefly the term “web-based computing”.
2. What are the differences between client-server computing and peer-to-peer computing?

Part C.

Work the following exercises from the textbook. You must summarize the answers to Part C on two pages: this page and the next page. Overall, your answers to this homework cannot exceed 5 pages.

1. Ex. 1.3, p. 36
2. Ex. 1.7, p. 36
3. Ex. 2.5, p. 64
4. Ex. 2.7, p. 64