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**Introduction to Computer Science**
**Spring 2016**

Sample questions for the final exam

## Lesson 8

1. What is the critical region and the mutual exclusion?
2. What is a deadlock? Give an example of a deadlock.
3. Explain the privileged and non-privileged modes.
4. Describe some privileged instructions that can cause significant damage to the system.
5. What is a Trojan horse? Give an example.
6. What is a trap door? Give an example.

## Lesson 9

7. Explain LAN, WAN, MAN.
8. Explain the difference between open and closed networks.
9. Describe the two network topologies.
10. What is Ethernet?
11. Describe the CSMA-CD protocol.
12. Explain the hidden terminal problem.
13. Describe the CSMA/CA protocol.
14. Describe the four ways of combining networks.
15. What are local and Internet addresses? What is the purpose of a forwarding table?
16. What is a gateway?
17. What do you understand with a client/server model? Give an example.
18. What do you understand with a peer-to-peer model? Give an example.
19. What do you understand with cluster computing?
20. What do you understand with grid computing?
21. What do you understand with cloud computing?
22. Describe Internet composition in terms of tiers of ISPs.
23. What is the DNS system? What do you understand with DNS lookup?
24. What are POP3 and IMAP? What is the difference between them?

25. What are Telnet and SSH? What is the difference?
26. What is the difference of 4G with 3G technology?

## Lesson 10

27. How would you define the WWW?
28. What is URL? Describe the structure of a URL?
29. What is HMTL? Give a simple example of an HTML code.
30. What do you understand with client-side script? Give an example.
31. Which are the main technologies for client-side programming?
32. What do you understand with server-side script? Give an example.
33. Which are the main technologies for server-side programming?
34. Sketch and describe with the four layers, how a message is sent through the Internet.
35. What are TCP and UDP? What are the differences between these?
36. What is the IP protocol? What is hop count?
37. Explain the public key system.
38. Give an example why we need certificate authorities.
39. What is a digital signature and what is its purpose?

## Lesson 11-12-13

Sketch of algorithms in pseudo-code or Java for solving simple problems.