

Computer Science Computer System Engineering

Author: Samuel Madden

Professor @MIT Massachusetts Institute of Technology

Published 2014

Create, Share, and Discover Online Quizzes.

QuizOver.com is an intuitive and powerful online quiz creator. [learn more](#)

Join QuizOver.com



How to Analyze Stocks

By Yasser Ibrahim

1 month ago
12 Responses

© iStock: Thomson Moter



Pre Employment English

By Katharina jennifer N

5 months ago
19 Responses

© iStock: Albin



Lean Startup Quiz

By Yasser Ibrahim

2 months ago
16 Responses

© iStock: Gekwini Okun

Powered by QuizOver.com

The Leading Online Quiz & Exam Creator

Create, Share and Discover Quizzes & Exams

<http://www.quizover.com>

Disclaimer

All services and content of QuizOver.com are provided under QuizOver.com terms of use on an "as is" basis, without warranty of any kind, either expressed or implied, including, without limitation, warranties that the provided services and content are free of defects, merchantable, fit for a particular purpose or non-infringing.

The entire risk as to the quality and performance of the provided services and content is with you.

In no event shall QuizOver.com be liable for any damages whatsoever arising out of or in connection with the use or performance of the services.

Should any provided services and content prove defective in any respect, you (not the initial developer, author or any other contributor) assume the cost of any necessary servicing, repair or correction.

This disclaimer of warranty constitutes an essential part of these "terms of use".

No use of any services and content of QuizOver.com is authorized hereunder except under this disclaimer.

The detailed and up to date "terms of use" of QuizOver.com can be found under:

<http://www.QuizOver.com/public/termsOfUse.xhtml>

eBook Content License

Morris, Robert, and Samuel Madden. 6.033 Computer System Engineering, Spring 2009. (MIT OpenCourseWare: Massachusetts Institute of Technology), <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-033-computer-system-engineering-spring-2009> (Accessed 2 May, 2014). License: Creative Commons BY-NC-SA

Creative Commons License

Attribution-NonCommercial-NoDerivs 3.0 Unported (CC BY-NC-ND 3.0)

<http://creativecommons.org/licenses/by-nc-nd/3.0/>

You are free to:

Share: copy and redistribute the material in any medium or format

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution: You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NonCommercial: You may not use the material for commercial purposes.

NoDerivatives: If you remix, transform, or build upon the material, you may not distribute the modified material.

No additional restrictions: You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

4. Chapter: Spring 2007 Quiz 1

1. Spring 2007 Quiz 1 Questions

4.1.1. When a program such as Xterm is run remotely and displays its windo...

Author: Samuel Madden

1. [6 points]: Which of the following statements are true of the X Windows System (as described in the X Windows paper, reading # 5)?

When a program such as Xterm is run remotely and displays its window on your local workstation, that remote machine is considered an X server.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [When a program such as Xterm is run remotely 1. 6 points Which of](#)

Flashcards:

<http://www.quizover.com/flashcards/when-a-program-such-as-xterm-is-run-remotely-1-6-points-which-of?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/when-a-program-such-as-xterm-is-run-remotely-1-6-points-which-of?pdf=1505>

4.1.2. In X Windows, interactive widgets such as pulldown menus and clicka...

Author: Samuel Madden

1. [6 points]: Which of the following statements are true of the X Windows System (as described in the X Windows paper, reading # 5)?

In X Windows, interactive widgets such as pulldown menus and clickable buttons are implemented by the client.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [In X Windows interactive widgets such as 1. 6 points Which of the](#)

Flashcards:

<http://www.quizover.com/flashcards/in-x-windows-interactive-widgets-such-as-1-6-points-which-of-the?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/in-x-windows-interactive-widgets-such-as-1-6-points-which-of-the?pdf=1505>

4.1.3. Like most client/server protocols, the X Windows protocol exclusive...

Author: Samuel Madden

1. [6 points]: Which of the following statements are true of the X Windows System (as described in the X Windows paper, reading # 5)?

Like most client/server protocols, the X Windows protocol exclusively uses big-endian byte ordering for all network communication.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [Like most client/server protocols the X 1. 6 points Which of following](#)

Flashcards:

<http://www.quizover.com/flashcards/like-most-client-server-protocols-the-x-1-6-points-which-of-following?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/like-most-client-server-protocols-the-x-1-6-points-which-of-following?pdf=1505>

4.1.4. The management of standard I/O streams of child processes.

Author: Samuel Madden

2. [8 points]: The UNIX designers chose to have the process created by a fork() share (inherit) the open file descriptors of its parent.

Which of the following would become more complicated had they decided on an alternate fork() semantics, in which the child process is created with no open file descriptors?

The management of standard I/O streams of child processes.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [The management of standard I/O streams of 2. 8 points UNIX designers](#)

Flashcards:

<http://www.quizover.com/flashcards/the-management-of-standard-i-o-streams-of-2-8-points-unix-designers?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/the-management-of-standard-i-o-streams-of-2-8-points-unix-designers?pdf=1505>

4.1.5. Structure of inodes as stored on the disk.

Author: Samuel Madden

2. [8 points]: The UNIX designers chose to have the process created by a fork() share (inherit) the open file descriptors of its parent.

Which of the following would become more complicated had they decided on an alternate fork() semantics, in which the child process is created with no open file descriptors?

Structure of inodes as stored on the disk.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [Structure of inodes as stored on the disk 2. 8 points UNIX designers](#)

Flashcards:

<http://www.quizover.com/flashcards/structure-of-inodes-as-stored-on-the-disk-2-8-points-unix-designers?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/structure-of-inodes-as-stored-on-the-disk-2-8-points-unix-designers?pdf=1505>

4.1.6. The format of directories as stored on the disk.

Author: Samuel Madden

2. [8 points]: The UNIX designers chose to have the process created by a fork() share (inherit) the open file descriptors of its parent.

Which of the following would become more complicated had they decided on an alternate fork() semantics, in which the child process is created with no open file descriptors?

The format of directories as stored on the disk.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [The format of directories as stored on the 2. 8 points UNIX designers](#)

Flashcards:

<http://www.quizover.com/flashcards/the-format-of-directories-as-stored-on-the-2-8-points-unix-designers?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/the-format-of-directories-as-stored-on-the-2-8-points-unix-designers?pdf=1505>

4.1.7. The creation of pipes between processes.

Author: Samuel Madden

2. [8 points]: The UNIX designers chose to have the process created by a fork() share (inherit) the open file descriptors of its parent.

Which of the following would become more complicated had they decided on an alternate fork() semantics, in which the child process is created with no open file descriptors?

The creation of pipes between processes.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [The creation of pipes between processes. 2. 8 points UNIX designers](#)

Flashcards:

<http://www.quizover.com/flashcards/the-creation-of-pipes-between-processes-2-8-points-unix-designers?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/the-creation-of-pipes-between-processes-2-8-points-unix-designers?pdf=1505>

4.1.8. If the performance of the system is not limited by network throughp...

Author: Samuel Madden

3. [8 points]: Ben Bitdiddle is using a MapReduce cluster (as described in reading #8) to process some data.

He finds that some of his programs are running slowly and needs your help to understand which performance enhancements to try.

For each of the following MapReduce configurations and suggested enhancements, circle True if the statement about the enhancement is true, and False otherwise.

If the performance of the system is not limited by network throughput or the rate at which map tasks can read from or write to the disk, then doubling the number of nodes in the system will probably improve performance if the number of map and reduce tasks is greater than the number of nodes.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [If the performance of the system is not 3. 8 points Ben Bitdiddle](http://www.quizover.com/question/if-the-performance-of-the-system-is-not-3-8-points-ben-bitdiddle)

Flashcards:

<http://www.quizover.com/flashcards/if-the-performance-of-the-system-is-not-3-8-points-ben-bitdiddle?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/if-the-performance-of-the-system-is-not-3-8-points-ben-bitdiddle?pdf=1505>

4.1.9. If some tasks on some workers take much longer than others to compl...

Author: Samuel Madden

3. [8 points]: Ben Bitdiddle is using a MapReduce cluster (as described in reading #8) to process some data.

He finds that some of his programs are running slowly and needs your help to understand which performance enhancements to try.

For each of the following MapReduce configurations and suggested enhancements, circle True if the statement about the enhancement is true, and False otherwise.

If some tasks on some workers take much longer than others to complete, and these “stragglers” are the bottleneck in the system, then allocating additional nodes to these straggler tasks will definitely improve performance.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [If some tasks on some workers take much 3. 8 points Ben Bitdiddle](#)

Flashcards:

<http://www.quizover.com/flashcards/if-some-tasks-on-some-workers-take-much-3-8-points-ben-bitdiddle?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/if-some-tasks-on-some-workers-take-much-3-8-points-ben-bitdiddle?pdf=1505>

4.1.10. Assume that there are 1000 machines, 1000 map tasks and 100 reduce ...

Author: Samuel Madden

3. [8 points]: Ben Bitdiddle is using a MapReduce cluster (as described in reading #8) to process some data.

He finds that some of his programs are running slowly and needs your help to understand which performance enhancements to try.

For each of the following MapReduce configurations and suggested enhancements, circle True if the statement about the enhancement is true, and False otherwise.

the entire 1000-node cluster can complete these MapReduce operations in 100 seconds then doubling the CPU performance (task processing rate) of each machine in the cluster may improve performance somewhat but not significantly.

Assume that there are 1000 machines, 1000 map tasks and 100 reduce tasks, and that the CPU processing time for each map or reduce task to execute on a single machine is 1 second. If

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [Assume that there are 1000 machines 100 3. 8 points Ben Bitdiddle](#)

Flashcards:

<http://www.quizover.com/flashcards/assume-that-there-are-1000-machines-100-3-8-points-ben-bitdiddle?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/assume-that-there-are-1000-machines-100-3-8-points-ben-bitdiddle?pdf=1505>

4.1.11. Suppose local disk reads and writes are 100 times as fast as networ...

Author: Samuel Madden

3. [8 points]: Ben Bitdiddle is using a MapReduce cluster (as described in reading #8) to process some data.

He finds that some of his programs are running slowly and needs your help to understand which performance enhancements to try.

For each of the following MapReduce configurations and suggested enhancements, circle True if the statement about the enhancement is true, and False otherwise.

Suppose local disk reads and writes are 100 times as fast as network transfers and the coordinator is never able to achieve locality by assigning map workers to map input tasks stored on their local disks. In that case, if the system has an I/O bottleneck, then doubling network throughput will substantially improve performance.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [Suppose local disk reads and writes are 3. 8 points Ben Bitdiddle](#)

Flashcards:

<http://www.quizover.com/flashcards/suppose-local-disk-reads-and-writes-are-3-8-points-ben-bitdiddle?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/suppose-local-disk-reads-and-writes-are-3-8-points-ben-bitdiddle?pdf=1505>

4.1.12. Preemptive scheduling allows the kernel's thread manager to run app...

Author: Samuel Madden

4. [8 points]: Which of the following statements about operating system kernels are true?

Preemptive scheduling allows the kernel's thread manager to run applications in a way that helps avoid fate sharing.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [Preemptive scheduling allows the kernel 4. 8 points Which of following](#)

Flashcards:

<http://www.quizover.com/flashcards/preemptive-scheduling-allows-the-kernel-4-8-points-which-of-following?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/preemptive-scheduling-allows-the-kernel-4-8-points-which-of-following?pdf=1505>

4.1.13. The kernel serves as a trusted intermediary between programs runnin...

Author: Samuel Madden

4. [8 points]: Which of the following statements about operating system kernels are true?

The kernel serves as a trusted intermediary between programs running on the same computer.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [The kernel serves as a trusted intermediary 4. 8 points Which of](#)

Flashcards:

<http://www.quizover.com/flashcards/the-kernel-serves-as-a-trusted-intermediary-4-8-points-which-of?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/the-kernel-serves-as-a-trusted-intermediary-4-8-points-which-of?pdf=1505>

4.1.14. In an operating system that provides virtual memory, the kernel mus...

Author: Samuel Madden

4. [8 points]: Which of the following statements about operating system kernels are true?

In an operating system that provides virtual memory, the kernel must be invoked to resolve every memory reference.

Please choose only one answer:

- True
- False

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [In an operating system that provides virtual 4. 8 points Which of](#)

Flashcards:

<http://www.quizover.com/flashcards/in-an-operating-system-that-provides-virtual-4-8-points-which-of?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/in-an-operating-system-that-provides-virtual-4-8-points-which-of?pdf=1505>

4.1.15. When a kernel switches a processor from one application to another ...

Author: Samuel Madden

4. [8 points]: Which of the following statements about operating system kernels are true?

When a kernel switches a processor from one application to another application, the target application sets the PMAR register appropriately after it is running in user space.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:

Question: [When a kernel switches a processor from 4. 8 points Which of the](#)

Flashcards:

<http://www.quizover.com/flashcards/when-a-kernel-switches-a-processor-from-4-8-points-which-of-the?pdf=1505>

Interactive Question:

<http://www.quizover.com/question/when-a-kernel-switches-a-processor-from-4-8-points-which-of-the?pdf=1505>