SYS & NET I - 0498 COP4634 201308

Quiz Submissions - Homework 5

Daniel Davis (username: DanielDavis.dkd6)

Attempt 1

Written: Dec 1, 2013 9:06 PM - Dec 1, 2013 9:11 PM

Submission View

released: Dec 2, 2013 1:00 AM

Question 1 **4 / 4 points**

Consider a UNIX-like file system that manages a file's data block with an i-node. Assume that the i-node uses 10 directly indexed blocks and 4 single indirect and 2 doubly-indirect pointers to index all other data blocks in the file. Assume that each disk block is 512 bytes long and that a block address is 4 bytes long. What is the maximum file size of your file that the file system can create?

Enter in bytes.

Answer: 17044480 ✓

Question 2 **2 / 3 points**

Assume that the head of your drive is located on track 55. The disk controller generates a request for the following tracks containing data blocks to read a file: 16, 28, 35, 105, 88. In what order are the tracks accessed? List, the track numbers in the order by which the disk accesses the tracks pertaining to the file.

Use commas and spaces when you enter the list, e.g. 5, 6, 9, 18

Answer: 55, 35, 28, 16, 88, 105 ✗ **(35,28,16,88,105)**

Question 3 **1 / 1 point**

Assume that the head of your drive is located on track 55. The disk controller generates a request for the following tracks containing data blocks to read a file: 16, 28, 35, 105, 88. What is the average number of tracks that the disk arm has to traverse in order to visit all tracks and read the file content?

Answer: 25.6 ✓

Question 4 **0 / 2 points**

Assume a disk that has the capacity of storing 1 TB (terabytes) of data. If the file system uses a bit vector for free space management, what is the size of your bit vector if a disk block is 512 bytes long?

Enter the size of the bit vector in MB (megabytes).

Answer: 2048 ✗ **(256)**

Attempt Score: 7 / 10

Overall Grade (highest attempt)**:** 7 / 10

Close