sort a huge array

what is the best way to sort a huge array. say I have 1G RAM, array is 16G. What is the most efficient method to do this? I got enough disk for files.

algorithm

asked Feb 24 '11 at 2:36

Josh Morrison
2,257 4 41 60

Which programming language are you intending to use? You seem to be most concerned about memory usage. What's the state of the virtual memory; do you even need to care? *What's your definition of 'best'* - time, minimized swapping, or other? – p.campbell Feb 24 '11 at 2:37

@p.campbell not a practical problem. Focus on algorithm and solution. Thanks :) – Josh Morrison Feb 24 '11 at 2:38

@p.campbell yeah kinda. I met another big file question before. so came up with this one. still preparing for Amazon interview. LOL~ – Josh Morrison Feb 24 '11 at 2:52

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2 Answers

Split into chunks and sort 512MB at a time into 32 files. Then do a streaming merge sort of the files into one file.

answered Feb 24 '11 at 2:38

recursive
37.4k 12 72 155

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If it's an array of integers, you can get by with a naive radix sort `(O(n))` and use almost no RAM at all. First question would be "What kind of data is it?". If its arbitrary data, then an external mergesort is probably your best option.

-tjw

answered Feb 24 '11 at 3:06

Travis Webb
6,044 1 24 61

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