CSE 102 **Assignment: due in class**
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A disk drive has the following performance characteristics: 10000 rpm rotation speed and each track contains two hundred 512 byte sectors. The average seek latency is 4.9ms; the minimum and maximum are 1.1ms and 10.2ms respectively. For these exercises, a stripe unit consists of 8KB.

1. What is the read and write service times T_S for a single stripe unit on a single disk.
2. What is the read and write service times T_S for a single stripe unit on a RAID level 5 configuration composed of five disks.

   The following problems continue the above in which each operation accesses a total of 1 MB of "contiguous" data.
3. What is the read and write service times T_S for a 1 MB operation on a single drive?
4. What is the read and write service times T_S for a 1 MB operation on the RAID level 5 configuration composed of five disks.

   The response times T_R for these operations naturally depend upon the workload – as the workload increases the queueing time T_Q increases.
5. Plot response time curves for the four operations above; you are to assume the usual M/M/1 model for the disk drive operation queue.