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Query Optimization

11. Exercise, Winter 2007/2008

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1. Implement a program that measures the physical characteristics (in particular bandwidth and seek time) of a hard disk. Measure the values for your own hard disk. (5)
2. Given these values, determine the break even point where a scan becomes cheaper than an index lookup. (3)
3. We assume the query optimizer has underestimated the costs of a scan by a factor α ($\alpha > 1$) and overestimated the costs of an index lookup by a factor β ($\beta < 1$). What is the maximum error caused by this misestimation? (2)