



CS342 Project 2

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12.11.2018

Effect of batch size

We created 10 input files to test our program. Each file contains 100.000 numbers between 0 and 10.000.

We tested the program with 2 different number of files and 10 different batch sizes. Number of files: 5 and 10. Batch sizes: 10 20 30 40 50 60 70 80 90 100.

Our analysis shows that batch size does **not** affect the running time. The detailed running times can be found at the following table.

	Running time (s)	
Batch size	5 files	10 files
10	0.16	0.34
20	0.16	0.33
30	0.16	0.32
40	0.16	0.32
50	0.16	0.32
60	0.16	0.32
70	0.16	0.33
80	0.17	0.33
90	0.16	0.32
100	0.16	0.32

We implemented batch feature with another linked list. For example, while reading from a file, we add numbers to a temporary linked list. Then, in the critical section, we add the temporary linked list to the end of main linked list. Since appending a linked list is just a pointer manipulation, it does not take much time and does not affect the running time.