

Thanks for your interest in engineering at Alation!

Try out the code test to the right:

- ▶ pick any language
- ▶ send us your solution in code

Please

- ▶ complete in one sitting
- ▶ let us know how long it takes you to complete each problem

One of our lead engineer's favorite quotes is "good artists borrow, great artists steal" and the same goes for coders: feel free to use resources and libraries online. Just cite your sources: Clearly indicate which part is your contribution (at both algorithm and implementation levels).

Please conduct appropriate analysis and testing to verify the correctness and efficiency of your code. Systematic experiments with numbers are highly encouraged.

You are encouraged to document your analysis of the problems, research findings, and how you come to a solution.

Thanks!
The Alation Team

P.S. Good luck!

Indexing

Given a list of one million `<string name, int score>` pairs where names are valid Java variable names, write two programs and try to optimize their efficiency:

1. A Construction Program that produces an index structure *D*.
2. A Query Server Program that reads in serialized *D* and then accepts user queries such that for each query *s*, it responds with the top 10 names (ranked by score) that start with *s* or contains '*_s*' (so for example, both "revenue" and "yearly_revenue" match the prefix "rev"). Query answering should run in sub-linear time (in terms of the number of names in the input).