

Software Engineer Home Assignment

Hello 🤗 and greetings for receiving Cyolo home assignment for Software Engineer!

This task examines your back-end skills. It doesn't require any prior or domain-specific knowledge. Just be yourself and deliver the best solution in the allocated time.

Please write a service in the language you're most comfortable with that consists of 2 endpoints:

- The first endpoint should accept a string of comma-separated words.
- The second endpoint should return stats about the frequency of all the words received in total:
 - Top 5 recurring words
 - Minimum frequency among all words
 - The median frequency

For example:

When the following inputs were received:

1	ball,eggs,pool,dart,ball,ball
1	table,eggs,pool,mouse,ball,eggs
1	table,mouse

The response from the stats endpoint should be:

1	top5:
2	ball 4
3	eggs 3
4	mouse 2
5	pool 2
6	table 2
7	
8	leaset: 1
9	
10	median: 2

Task notes:

- Do not use any external resources. Store data in memory.
- The solution has to be scalable. Allow concurrency and expect a lot of traffic. Note that sending words **to the server** seems to happen much more than **getting the stats**
- Write code as you write for production in terms of scale and think people should enjoy maintaining it but don't mind about extensibility.
- When solving this exercise, you'll need to trade off between optimized logic (time/memory), code complexity, and execution time. It is highly recommended to provide documentation explaining the different approaches you've considered and why you made the decisions you made.

Good luck,

We believe in you 🤞