

Developer Task

Task #1: Linux

Based on history write a bash oneliner to print a count of unique commands that were used in conjunction with sudo:

hint: the start of the oneliner should be: `history |`

example:

If the output of the command `history` is:

```
1 sudo nano /tmp/file1
2 ls /home
3 grep "test" /tmp/file1
4 sudo nano /tmp/file1
5 sudo nano /tmp/file1
6 sudo rm /tmp/file1
```

then result of the oneliner should be:

```
3 sudo nano /tmp/file1
1 sudo rm /tmp/file1
```

Please include an explanation of what each part of your oneliner does.

Task #2: Python

Write a RESTful service in Python that features the following endpoints. Try to apply general python **best practices** where applicable (i.e. imagine this will be a larger application later).

- **GET** /fib/<number>: Given a number, find all combinations of fibonacci number that add up to that particular number.

Remember, the fibonacci sequence is being calculated as follows: $f_n = f_{n-1} + f_{n-2} \forall n > 2$; with the first two numbers being $f_1 = f_2 = 1$ are excluded from the sequence, hence your $f_1 = 2$.

Example for »/fib/11« the response will be a list of all possible combinations with a status code 200.

```
[ [2, 2, 2, 2, 3], [2, 2, 2, 5], [2, 3, 3, 3], [3, 3, 5], [8, 3] ]
```

- **GET** /health: Return health information about the service. Definition of »health check« is up to you.

You can use any framework you like. We recommend using Flask.

What is important to us:

- code efficiency and speed
- code structure and cleanliness (a solid bet is to follow the S.O.L.I.D principles ;)
- code testability
- correctness of the result
- bonus points achieved

Optional Bonus Points

Feel free to do as much of the bonus points as you can. You can choose the order yourself.

- Write tests where it makes sense to *you*.
- Log the requests/responses being made to /fib in a database of your choice.
- Caching layer to avoid recalculating of Fibonacci sequences.
- Basic benchmarking to see how you code perform.
- Setup tox to test your project with several python versions.
- Dockerize your service.

Tip: Choose early what bonus points you want to take on

Good luck!