

# Algorithm performance



How to measure?

## By the end of this video you will be able to...

- Explain why the performance of an algorithm is important
- Describe some factors that impact the performance of an algorithm

$$\text{Flesch score} = 206.858 - 1.015 \frac{\# \text{ words}}{\# \text{ sentences}} - 84.6 \frac{\# \text{ syllables}}{\# \text{ words}}$$

There is hereby imposed on the taxable income of every individual (other than a surviving spouse as defined in section 2(a) or the head of a household as defined in section 2(b)) who is not a married individual (as defined in section 7703) a tax determined in accordance with the following table:

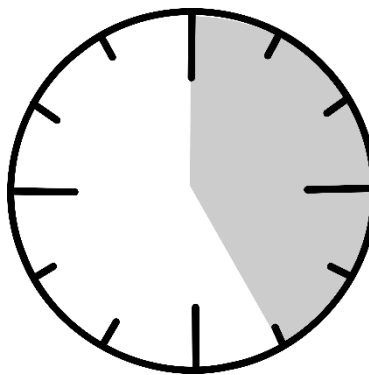
If you are single, never lost your spouse, and not the head of a household, you pay taxes according to the following table:

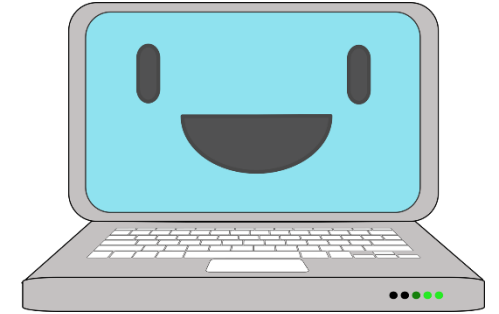
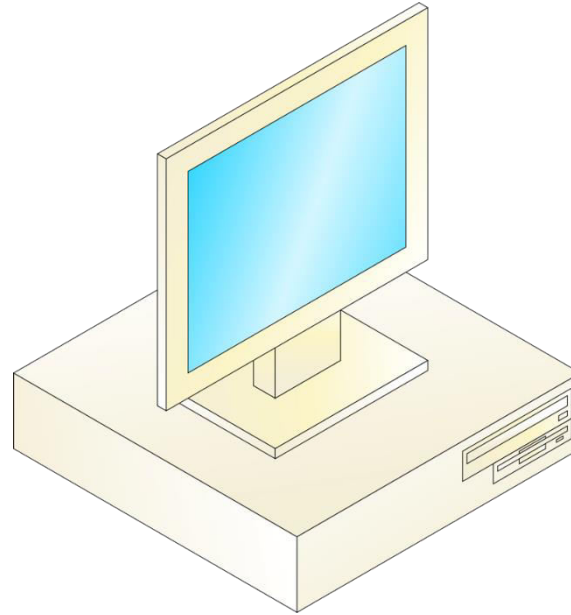
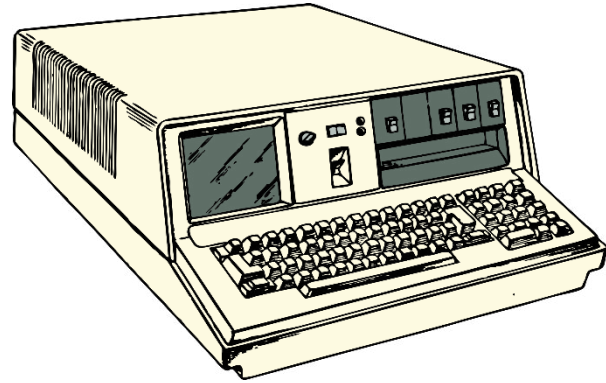
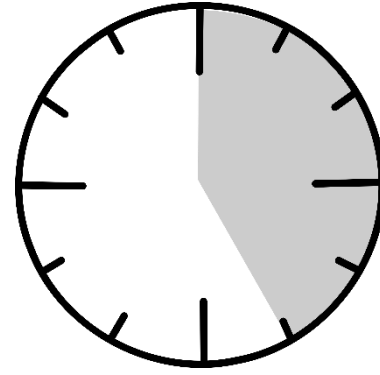
$$\text{Flesch score} = 206.858 - 1.015 \frac{\# \text{ words}}{\# \text{ sentences}} - 84.6 \frac{\# \text{ syllables}}{\# \text{ words}}$$

**How long does this take?**

There is hereby imposed on every individual (other than an individual described in section 2(a) or (b) or an individual described in section 2(b)) who is not a resident alien (as defined in section 7703) a tax determined in accordance with the following table:

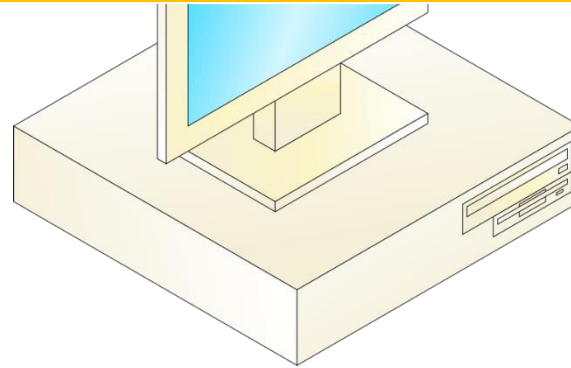
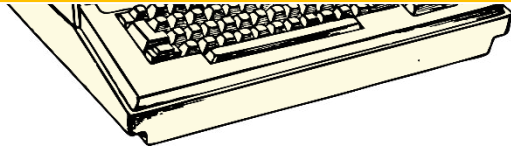
If you are single, never lost your spouse, and not the head of a household, you pay taxes according to the following table:

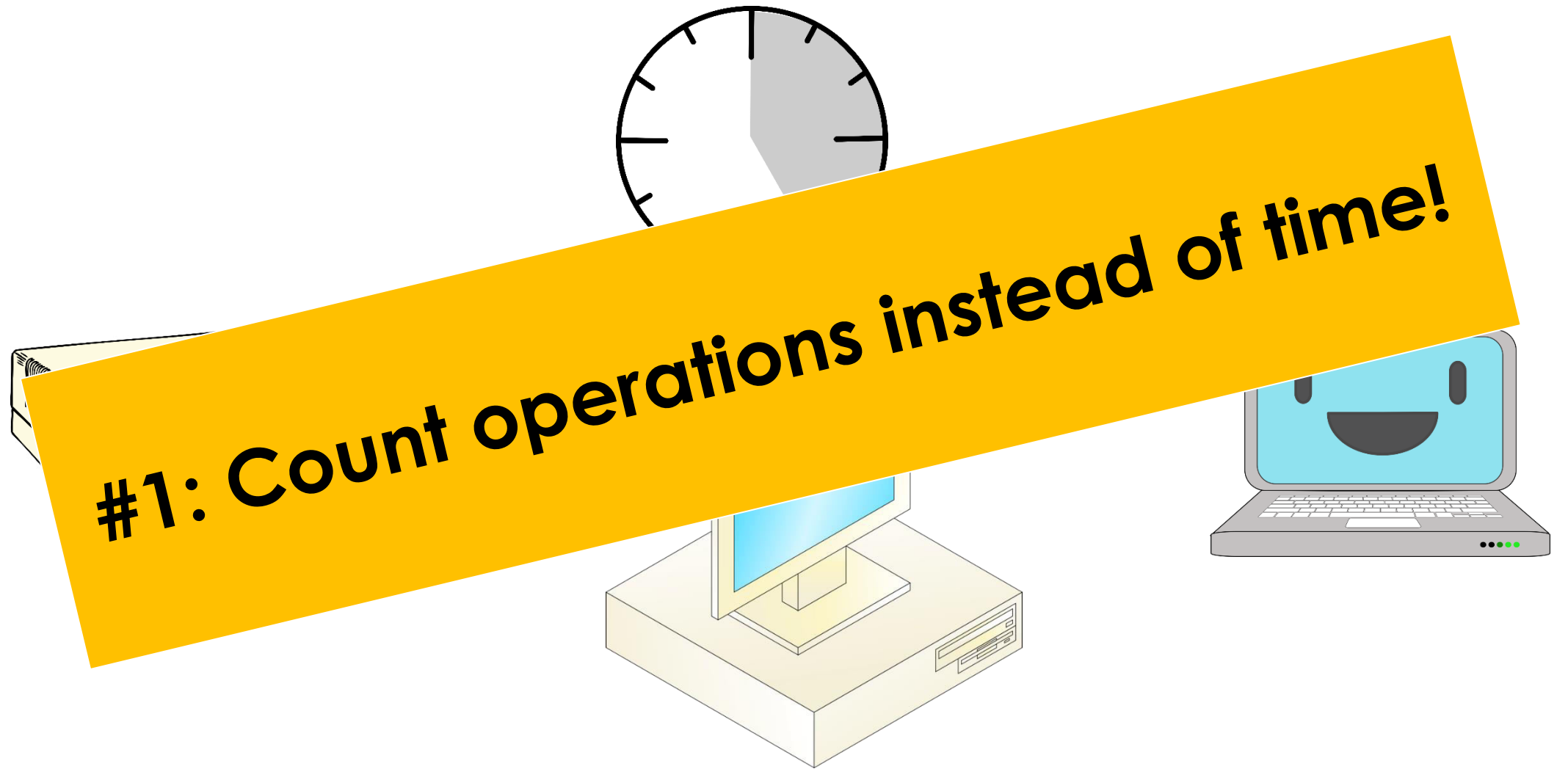






**Should we give up trying to measure?**





**#1: Count operations instead of time!**



# How many operations get executed?

Start at first index of array / list

While current index is less than length:  
    count syllables

# How many operations

Start at first index of array / list

**While current index is less than length:**  
count syllables



How many operations get executed?

Start at first index

When

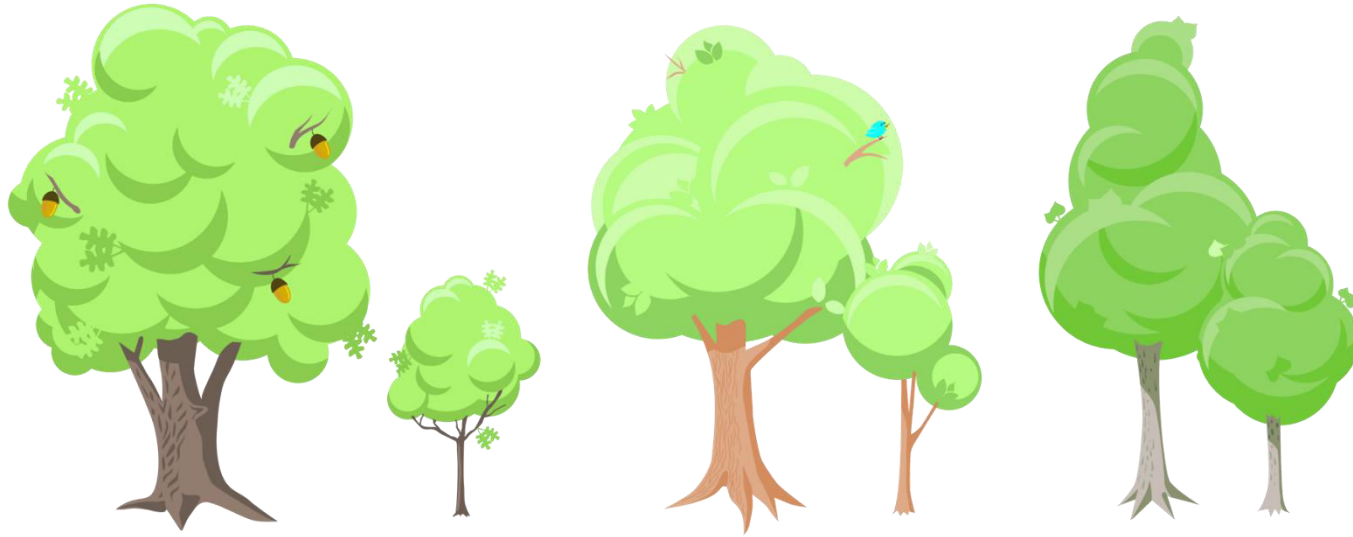
**#2: Focus on how performance scales**

on.

## #2: Focus on how performance scales

If list is **twice** as long,  
how much **more time** does it take to search it?

# Is size all that matters?



**#1: Count operations instead of time**

**#2: Focus on how performance scales**

**#3: Go beyond input size**