Big O Notation

Time complexity of an algorithm

"How much time it takes to run a function as the size of the input grows."

Runtime

array → number of elements

Const
array1 = [🐱, 🌸, 🎩, 💩, ✒️] $n = 5$

Let's see if there is a needle in the haystack!

```js
Const numNeedles = (haystack, needle) => {
  let count = 0
  for (let i = 0; haystack.length; i++) {
    if (haystack[i] === needle) count += 1;
  }
  return count;
}
```

How long does it take to execute when the number of elements (n) is:

♥ execution time grows linearly as array size increases!

(time in ms)

$n = 1$
$n = 5$
$n = 10$

this is Linear time Complexity

=

$O(n)$