Computational Complexity

Evaluate the purpose of algorithm given the size of its inputs/Measure performance of algorithm.

* Time complexity
* Speed Complexity
* Power consumption
  + Characteristics to compare two algorithms. Preparing the same task.

Time complexity: Measure how good the algorithm is/equates in terms of time independent of the machine it is expected.

To measure time complexity, we make some assumptions.

1. We measure time in terms of number of instructions executed.
2. Fundamental operations: A fundamental operation takes 1 unit of time to equate.

Fundamental Operations:

-Declaring a variable

-Reading from memory

-Writing to memory

-Preparing any arithmetic/logic operation that doesn’t include calling a function (if s

All of these take 1 unit of time

Tune complexity is measured/calculated for an input size.

Int a( ) Running time

{

Int b = 10; T(n) = 1 + 1 + 1

Int c = b 20x b; T(n) = 3

Return c;

}

N is size of input/dependent of size of input

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