How the length of your runtime increase as your size of your input grows

Hows does the runtime of this function grow as the size of the input grows

linear time O(n) :

T can be expressed as a linear function

T = an + b

where T is the Runtime,

n is the number of inputs,

a and b are constants

constant time O(1)

quadratic time O(n^2)

T = cn^2 + dn + e

Lists

an array holds an ordered collection of items accessible by an integer index

Searching

Linear seach

Sorted array It is 10. Binary search

Given an input of 100,000,000 , the runtime of a binary search is 4,000,000 times better than linear search.

Insertion sort

Best case

Worst case

Big O – order of the function , upper bound