Jason Morse

10/15/13

CS102 – HW3 – Growth Functions and Big O Notation

1. 1. O(n2)
   2. O(n3)
   3. O(2n)
   4. O(n2)

Efficiency for n=10 (least to most efficient):

100n3 + 2n 10n3 – 7 10n2 + 100n + 1000 n2log2n

Efficiency for n=1000000 (least to most efficient):

100n3 + 2n 10n3 – 7 n2log2n 10n2 + 100n + 1000



The time complexity of this algorithm is O(n).



Growth function: 3n2/2 + 7n/2 + 2

Order: O(n2)



Growth function: nlog2(n+1) + 2nlog2n + 3n + 2

Order: O(nlog2n)



Growth function: 4n2 + 5n + 2

Order: O(n2)



Growth function: 5n + 2

Order: O(n)