Data Structure and Algorithm Essentials
Assignment 1 | 18th January 2021

Question 1:

What is the time, space complexity of following
    code: int a = 0, b = 0;
    for (i = 0; i < N; i++) {
    a = a + 1;
    }
    for (j = 0; j < M; j++) {
    b = b + j;
    }

Answer: Time complexity – O(N+M)

    Space complexity – O(1)

Question 2:

What does it mean when we say that an algorithm X is asymptotically more efficient than Y?

    a)   X will be a better choice for all inputs
    b)   X will be a better choice for all inputs except possibly small inputs
    c)   X will be a better choice for all inputs except possibly large inputs
    d)   Y will be a better choice for small inputs

Answer: X will be a better choice for all inputs except possibly small inputs

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