**Lets Upgrade**

**Assignment 1 | 18th January 2021**

**Data Structures and Algorithm | Jan 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 1**

O(N + M) time, O(1) space

**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 2**

b) X will be a better choice for all inputs except possibly small inputs