**Data Structures and Algorithm Essentials**

**Assignment 1**

**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;

}

Ans: Complexity = O(N+M)

**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

Ans: sssb) X will be a better choice for all inputs except possibly small inputs