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;

}

1. O(mn) :- Time Complexity

O(m+n) :- Space Complexity

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

Y?

1. X will be a better choice for all inputs
2. X will be a better choice for all inputs except possibly small inputs
3. X will be a better choice for all inputs except possibly large inputs
4. Y will be a better choice for small inputs
5. a)