**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;**

**}**

Answer:-

Time Complexity is O(N+M).

Space complexity is 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:-

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