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**ASSIGNMENT 1**

1. What is the time complexity of the following code?

int a = 0;

for (i = 0; i < n; i++)

{

    for (j = n; j > i; j--)

{

        a = a + i + j;

    }

}

**Ans. O(N^2)**

1. What is the time complexity of the following code?

int count=0;

for (int i = 1; i <= n; i = i\*2)

{

for (j = 1; j <= i; j++)

{

count = count + 1;

}

}

**Ans. O(N LOG N)**

1. Find the best case, average case, and the worst case of linear search algorithm?

**Ans. In best case, linear search algorithm takes O (1) operations.**

**In worst case, linear search algorithm takes O (n) operations.**

**In average case, linear search algorithm takes O (n/2) operations.**