**DAY 1 ASSINGMENT**

**1.) Find the time complexity for the following scenarios**

a.) for(i=1;i<=n;i++)

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

printf("Hi");

b.) for(i=1;i<=n;i\*=3)

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

printf("Hello");

**ANSWERS**

**a.)O(n2)**

*FIRST FOR LOOP*

“i ” takes time complexity of O(n)

*SECOND FOR LOOP*

“j” takes a time complexity of O(n)

 On multiplication of time complexities we get:

O(n2)

**b.) O(nlogn)**

*FIRST FOR LOOP*

“i” keeps on getting trippled until it is less than ‘n’, so it takes a time complexity of O(logn)

*SECOND FOR LOOP*

“j”  runs for n times which is o(n)

On multiplying the time complexities of the 2 loops

We get:

O(nlogn)