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:

$O(n^2)$

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)