1.) Find the time complexity for the following scenarios  
a.) for(i=1;i<=n;i++)  
 for(j=i;j<=n;j++)  
 printf("Hi");  
**Answer:** a

i j T(n)=> O(n\*( n\*(n+1)/2)) = **O(n3)**

1 n

2 n-1

3 n-2

.. --

.. --

n 1

b.) for(i=1;i<=n;i\*=3)  
 for(j=1;j<=n;j++)  
 printf("Hello");

**Answer:** a

i j T(n)=> **O(log3(n)\*n)**

log3(n) n

-- n

2. class homework:

for(i=1;i<=n;i\*=2)  
 for(j=1;j<=i;j++)  
 printf("Hi");

**Answer:** a

i j T(n)=> O(log2(n)\* log2(n))

1 1

2 2

4 4

8 8

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n n