DSA assignment Day-1

1.) Find the time complexity for the following scenarios

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

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

            printf("Hi");

Answer:-

i	j
1	n
2	n-1
3	n-2
4	n-3
.	.
.	.
.	.
n	1

Time complexity = n+(n-1)+(n-2)+.....+3+2+1

                = n(n+1)/2

                =n^2

Therefore the time complexity is O(n^2)

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

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

            printf("Hello");

Answer:-

i	j
1	n
3	n
6	n
9	n
.	.
.	.
.	.
n	n

The time complexity = O(nlogn)