ASSIGNMENT 1 DAY-1

Name-Srujan

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");

ans-

a)

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

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

printf("Hi");

Here the outer for loop runs 0(n),but the inner loop runs infinity times.

There is no time complexity for the infinity loop. In the inner loop i<=n always satisfies, so it runs infinity times.

So there is “no time complexity” for given scenario.

b)

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

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

printf("Hello");

In the above scenario the time complexity of outer “for loop “ is

Log n (base 3) . But the inner “for loop” runs infinity times .

So there is “no time complexity” for the above scenario.