

$O(0)$
 $O(5)$
 $O(2/N)$?
 $O(\log N)$
 $O(N^{1/2})$
 $O(NM) - O(N)$
 $O(N^{1.5})$
 $O(N^2)$
 $O(N^4)$
 $O(2^N)$
 $O(\text{infinity})$

i)

Sum is incremented by one for n times therefore $O(N)$

ii)

Sum is incremented by one for n times, n times, therefore $O(N * N) = O(N^2)$

iii)

Sum is incremented by one for i times, n times. This comes out to

$$1 + 2 + 3 + \dots + n = O(N(N+1)/2)$$

iv)

Sum is incremented by $(N * N)$, $(N * N)$ times therefore

$$(N*N)*(N*N) = O(N^4)$$