What is the time complexity of given function, f(n)= n^3+n^2+n+4 ?

Solution:

Given,

f(n)= n^3+n^2+n+4

- f(n) >= n^3+n^2+n+4
- f(n) >= n^3+n^2+n, for all n>=1
- f(n) >= n^3+n^2 , for all n>=1
- f(n) >= n^3, for all n>=1

Compare with the standard Big omega notation equation that is,

f(n)>=c*g(n), for all n0>=n

Here,

g(n) = n3,

c = 1

$n_0 = 1$

- f(n) = Ω(g(n))
- f(n) = Ω(n3)