

1. You count the execution time of a program and determine that $T(n) = 50 n \log n + 2000 n + 50 + 0.00001 n^3$.

Clearly this is an $O(n^3)$ program.

However, suppose $n = 10^6$. What is the most significant term of $T(n)$ for $n = 10^6$?

2. What is $\sum_{i=1}^n (3i)$? (The answer should not contain i).