

Hw6 - write out big time complexity

a) $T(N) = 2N + N(N+3)$
quadratic time = $O(N^2)$

b) $T(N) = 5$
constant time complexity = $O(1)$

c) $T(N) = N + \log N^2$
Linear expression = $O(N)$

d) $T(N) = N(2 + \log N)$
log linear complexity = $O(N \log(N))$

e) $T(N) = \log 2N$
logarithmic complexity = $O(\log(N))$

f) $T(N) = 2N + \overset{\text{dominant.}}{N^2} + 2^N$
is exponential complexity = $O(2^N)$