

SE 101 In-Class Quiz 5

November 13, 2018

This quiz is open-book. In fact you can even (quietly) talk to your neighbour about it.

Question 1: Give an example of an algorithm which runs in time $O(n^2)$.

Question 2: Provide a satisfying assignment for formula $x \wedge (y \vee x \vee \neg z) \wedge (w \vee \neg x \vee \neg y) \wedge (\neg y \vee z)$.

Question 3: Consider polynomial function $p(n) = 3000n^2 + 500n$ and exponential function $e(n) = 2^n + 25n^2$. How big does n need to be before $e(n)$ is bigger than $p(n)$?

Question 4 (2 points): This question requires you to look up some information. Consider WaterlooWorks's search function. How much hardware do we need to implement search adequately? I'll require that a query take no longer than 0.1s. You have to justify your assumptions (e.g. number of users at peak load, size of data [number of postings] being queried).

Your name and student number: