CS 325 – Quiz 1 Questions

1. Which of the following growth-rate functions grows the fastest in value?



n^2



1



log n



n

1. Which of the following growth-rate functions indicates a problem whose time requirement is independent of the size of the problem?



n^3



log (n^2)



1



n

1. An algorithm’s execution time is related to the number of \_\_\_\_\_\_ it requires.

Group of answer choices



test data sets



parameters



data fields



operations

1. Which of the following can be used to compare two algorithms?



computers on which programs which implement the two algorithms are run



implementations of the two algorithms



test data used to test programs which implement the two algorithms



growth rates of the two algorithms

1. Algorithm efficiency is typically a concern for \_\_\_\_\_\_.

medium sized problems only



small problems only



problems of all sizes



large problems only

1. The \_\_\_\_\_\_ notation defines an upper bound of an algorithm, it bounds a function only from above.



Big Theta



Big Omega



Big O



Small Omega

1. The order of Insertion Sort average case is:



O(n)



Theta (n^2)



O(n log n)



Theta (n log n)

1. Merge Sort uses \_\_\_\_ algorithm technique

* Divide and Conquer

1. If f(n)=0(g(n)), g(n)=O(h(n)), h(n)=O(k(n))... which of the following is true?



f(n)<g(n)<h(n)...



f(n)=g(n)=h(n)...



cannot compare



f(n)>g(n)>h(n)...

1. In the merge-sort execution tree, the cost of operations done at each level of the tree is different.



True



False