

1993 Paper 3 Question 8

Data Structures and Algorithms

For a given problem with inputs of size n , algorithms A, B, C are executed. In terms of running time, one of the algorithms is $O(n)$, one $O(n \log n)$ and one $O(n^2)$. Some measured running times of these algorithms are given below:

		INPUT SIZE		
		512	1024	2048
ALGORITHM	A	70	134	262
	B	135	517	2053
	C	42	86	182

Identify which algorithm is which and explain the observed running times. Which algorithm would you select for different values of n ? [20 marks]