Which version of Fib(n) will be more time efficient for calculating Fib(88) after first calculating Fib(100)?

_____ 1) Recursive  2) Iterative  3) Dynamic Programming  4) All are equal

What is the main reason why? _____ (Use the letters below to answer this question)

A) recursive version is shorter to code
B) recursive version implicitly uses the run time stack
C) iterative version does not re-compute all the previously computed fib values each time it is called
D) iterative version uses looping and nothing else
E) dynamic programming uses dynamic memory allocation to calculate fib values
F) dynamic programming version stores previously computed fib values so does not re-compute them
G) recursive version takes advantage of two base cases
H) iterative and dynamic programming versions call the recursive version so they are all equal
I) all versions have the same big-Oh time and space complexity
J) all versions have the same recurrence relation and closed-form solution

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Given the following binary tree

Specify the output for the following traversals

Preorder traversal: ____ ____ ____ ____ ____ ____ ____ ____ ____

Inorder traversal: ____ ____ ____ ____ ____ ____ ____ ____ ____

Postorder traversal: ____ ____ ____ ____ ____ ____ ____ ____ ____
Construct a minimum spanning tree from the following network. Hint: 9 vertices so MST should have 8 edges.

What is the total weight of the minimum spanning tree? ______

Is there more than one minimum spanning tree in this graph (yes or no)? ______

Match the big-Oh run time complexity with the algorithm.

1) O( n log₂ n )   _____ FindMax algorithm (recursive)
2) O( n² )    _____ Merge sort algorithm
3) O( 2ⁿ )    _____ Binary search (recursive)
4) O( 1 )    _____ Euclidean gcd algorithm
5) O( log₂ n )    _____ Sequential search (iterative)
6) O( n )    _____ Bubble sort algorithm (naive version)
7) O( n! )    _____ Bubble sort with early out (smart version)

What is a stable sort? ______

A) The sort is done in place without using additional space or data structures  
B) The sort is always the same runtime complexity no matter what order the original data is in  
C) Duplicate values are in the same order after the sort as they were in the original data  
D) Duplicate values are eliminated so the sorted data has no duplicates  
E) The sort uses the paradigm of a barn's stable to partition data into different stalls similar to shunting-yard alg.

Use the following letters for the next series of questions.

A) Donald Knuth  
B) John Backus  
C) Alan Turing  
D) John von Neumann  
E) Tony Hoare  
F) Edsger Dijkstra

Who invented Quicksort? _____

Who invented Merge sort? _____

Who is known as the father of FORTRAN? _____

Who invented Shortest-Path greedy algorithm? _____