What is recursion?

What is a greedy algorithm?

Write short notes on:

* a. Divide and conquer
* b. Dynamic programming

What is Dynamic Programming?

Write a recursive algorithm to find the Fibonacci Series up to N terms.

Define divide and conquer approach of problem solving. Write an algorithm that uses divide and conquer approach and explain it with example.

What is Back Tracking algorithm?

What is Divide and Conquer algorithm?

What is the characteristic of a good algorithm?

What is recursive algorithm? Write an recursion algorithm for Tower of Hanoi problem.

Explain about Backtracking algorithm?

Explain Divide and Conquer technique.

What is Greedy algorithm?

What are Randomized algorithms?

What is recursive Algorithm? Explain recursion algorithm for Tower of Hanoi problem.

What is dynamic programming?

Explain Divide and Conquer technique.

What are randomized algorithms?

What is recursive Algorithm? Explain recursion algorithm for Tower of Hanoi problem.

What is the data structure used to perform recursion and why?

Define divide and conquer approach of problem solving with an example.

Write short notes on greedy algorithm. Write and explain an algorithm which uses greedy approach to solve the problem.

What do you mean by divide and conquer algorithm?

Explain Recursion and write a C-program to solve TOH for n number of disks.

Where can we use Divide and Conquer algorithm? Write any two examples?

Explain Recursion and write a C-program to solve TOH for n number of disks

Write an algorithm for Tower of Hanoi (TOH) with 'n' disks. Construct a recursion tree for TOH problem with 4 disks. [3+3]

Illustrate the importance of Huffman algorithm in data communication over the network using the following string. Also generate Huffman code.

BCCAAADDACACBB [6]

Explain how recursion uses stack data structures, use factorial of number calculation to illustrate the concept. [6]

Construct a Huffman code for the given symbols. [6]

Symbol A B C D E F Frequency (in thousands) 35 18 10 10 20 20

Explain merge sort in brief with an algorithm and suitable example.

Explain Quick Sort algorithm. Sort the following elements using Quick Sort.

14, 23, 7, 10, 33, 56, 80, 66, 70

In which case the insertion sort performs better than quick sort? Sort the given set of data using quick sort algorithm: 62, 71, 69, 26, 31, 85, 93, 58, 47, 99

Write an algorithm for quick sort. Sort the following numbers using quick sort: 30,25,79,19,48,28,21,44 and 120. [8]

Explain different types of recursion. Construct a recursion tree for Tower of Hanoi with 3 disks.

What is recursion?

Write a recursive module for the Tower of Hanoi problem.

What are tail and non-tail recursions?

Write an algorithm for TOH with n disks and generate a recursion tree of TOH problem with 3 disks.

How recursive algorithm uses STACK to store intermediate results? Illustrate with an example. Distinguish between normal function and recursive function.

Describe the importance of growth function in algorithm.

Explain how a recursive algorithm uses a stack with a suitable illustrative stack diagram.

Do you think recursive functions are slow? Compare recursive and non-recursive functions. Draw a recursion tree for the Tower of Hanoi assuming 4 disks.

Explain recursion with its disadvantages. Draw the recursive tree diagram for the Fibonacci sequence fib(5).

Explain the basic principles of quick sort and write down its partition algorithm. Compare quick sort and merge sort. Trace the sorting steps in a radix sort algorithm for the following data:

12, 11, 30, 21, 25, 39, 36, 17, 29, 10, 26, 33, 7, 9

What are the types of recursion? Write an algorithm for the Tower of Hanoi (TOH) and illustrate an algorithm for 3 disks.

Explain the statement "A junction or a object calls itself" using the idea behind it. Give a recursive algorithm for Fibonacci series and TOH (tower of Hanoi).

What is mean by recursion tree? Write recursive and iterative algorithms for Fibonacci number and compare and contrast the efficiency of two algorithms. Can every recursive problem be solved iteratively?

Write recursive algorithm to convert prefix expression to postfix expression. Draw recursion tree and transform the following prefix expression to postfix. a) +-$ABC\*D\*\*EFG b) ++A-$BCD/+EFGH

Discuss the efficiency of recursion. Draw the recursion tree for tower of Hanoi problem for 5 disks. Show execution path according to TOH algorithm.

What are deterministic and non-deterministic algorithms? Explain greedy algorithm.

Define greedy algorithm and heuristic algorithm. Briefly explain Big-Oh notation.

Write a recursive program to generate Fibonacci number up to nth terms.

What do you mean by Huffman Algorithm? Explain with example. Construct the B tree of order 5 using following data.

20, 10, 26, 55, 80, 11, 9, 60, 67, 55, 22, 76, 56, 45, 34, 100,150

What do you mean by recursion? Explain the implementation of factorial and Fibonacci sequences with example.

Explain the implementation of stack and queue with example.

What are the major characteristics of algorithms?

Explain the tower of Hanoi algorithm.

Explain Divide and Conquer algorithm taking reference to Merge Sort.

A file contains 100 symbols in which following character with their probability of occurrence. Build a Huffman tree according to Greedy Strategy.

a → 48

b → 11

c → 9

d → 14

e → 7

f → 11

Explain the use of Big O notation in analyzing algorithms. Compare sorting time efficiencies of Quick-Sort and Merge-Sort.

Write a recursive algorithm to calculate the nth Fibonacci number. Illustrate the recursion tree for a given value of n.

Why recursion is required? Explain with Tower-of-Hanoi example. How recursive algorithm makes program effective? Write the merits and demerits of recursion in Programming.

Explain the characteristics of Huffman's algorithm and its application.

Write merits and demerits of recursive function over non-recursive function.

Describe the significance of Huffman tree. Describe the procedure for construction of a Huffman tree. Illustrate it with an example. Describe different types of applications of Binary trees.

State the TOH problem. Write the recursion tree when the number of disks is four.

Describe the recursive procedure of Binary searching technique. Discuss the efficiency of Binary searching.

What is Recursion? Write a recursive algorithm to implement binary search.

What is an algorithm? Write down the features of an algorithm.

Write an algorithm to implement tower of Hanoi.

What is recursion? Write a recursive program to find factorial of a number.

How to find complexity of algorithms? Explain.

What is recursion? Write a recursive program to find factorial of a number.

How to find complexity of algorithms? Explain.

What is Recursion? Write a recursive algorithm to implement binary search.

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Write an algorithm to implement tower of Hanoi.

Explain concept of divide and conquer algorithm. Hand test quick sort algorithm with array of numbers (78, 34, 21, 43, 7, 18, 9,

36, 38, 19). What is time complexity of quick sort algorithm?

What do you mean by complexity of algorithms? How do you find time complexity?

Define recursive algorithm? How do you implement recursive algorithms while writing computer programs?

How do you implement binary search algorithm? What is time complexity of this algorithm?

Write short notes on:

a. Dynamic memory allocation