

Patan Multiple Campus

CSC 314: DAA Lab Assignments

1. Write iterative algorithm for the following problem, write program in C/C++. Also analyze their complexity.
  - a. Greatest Common Divisor (GCD) of two numbers.
  - b. Find  $n^{\text{th}}$  Fibonacci number
  - c. Sequential Search
  - d. Bubble Sort,
  - e. Selection Sort,
  - f. Insertion Sort
  - g. Min and Max finding in a list(minmax algorithm)
2. Write algorithm and program to search an item in ordered list using binary search as divide and conquer Approach
3. Write algorithm and program to find the maximum and minimum element in a list of numbers using divide and conquer approach.
4. Write algorithms and program using divide and conquer approach for following sorting algorithms
  - a. Heap Sort
  - b. Quick Sort
  - c. Randomized quick Sort
  - d. Merge Sort
5. Write a program to implement problem **Job Sequencing with deadline** using greedy algorithm
6. Implement the Floyd- Warshall's algorithm to compute all pair shortest path problem using dynamic programming approach.
7. Write a program to implement Matrix Chain Multiplication using dynamic programming algorithm.