Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Faculty of Engineering & Technology

Ganpat University - Faculty of Engineering & Technology
Information Technology

2CEIT402: Design & Analysis of Algorithm

INDEX

Sr. No	Experiments	CO Mapping	Page No.	Start Date	End Date	Remarks	Faculty Sign.
1	Implement a function for each of the following problems and count the number of steps executed/Time taken by each function on various inputs and write complexity of each function. Also draw a comparative chart. In each of the following functions N will be passed by user. 1. To calculate the sum of numbers from 1 to N using a loop. 2. To calculate the sum of numbers from 1 to N using the equation. 3.To calculate sum of numbers from 1 to N using recursion.	1,2,3					
2	Implement functions to print nth Fibonacci number using iteration and recursive methods. Compare the performance of two methods by counting the number of steps executed on various inputs. Also draw a comparative chart. (Fibonacci series 1, 1, 2, 3, 5, 8….. Here 8 is the 6th Fibonacci number)	1,2					
3	Write user defined functions for the following sorting methods and compare their performance by time measurement with random data and Sorted data. 1. Selection Sort 2. Bubble Sort 3. Insertion Sort 4. Merge Sort 5. Quick Sort 6. Randomized Quick Sort	2,3,4					

Ganpat University - Faculty of Engineering & Technology
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4	Implement a function of Sequential Search & Binary Search and count the steps executed by function on various inputs for best case and worst case. Also write complexity in each case and draw a comparative chart.	4,5					
5	Implement a program of Counting Sort & analyse it.	4					
6	Implement Program for fractional knapsack using Greedy design technique.	3, 4,5					
7	Implement Program for “Making Change” using Greedy design technique.	2,4					
8	Implement Program for “Making Change” using Dynamic Programming.	2, 4, 5					
9	Implementation of a knapsack problem using a method of dynamic programming.	2,4,5					
10	Implement N Queen's problem using Backtracking.	1, 4, 5					

Name and Sign. of Faculty Member