STUDENT PORTFOLIO

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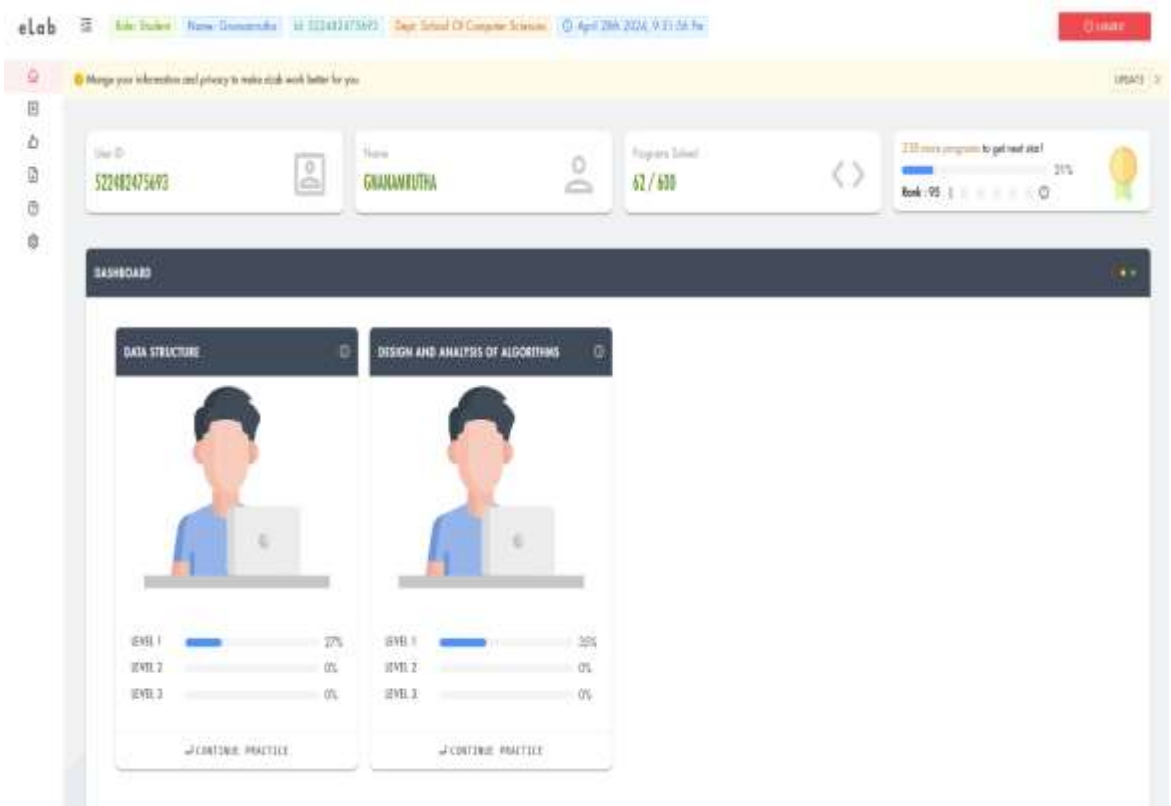
Section:D2
Department: COMPUTING TECHNOLOGIES
Semester: IV

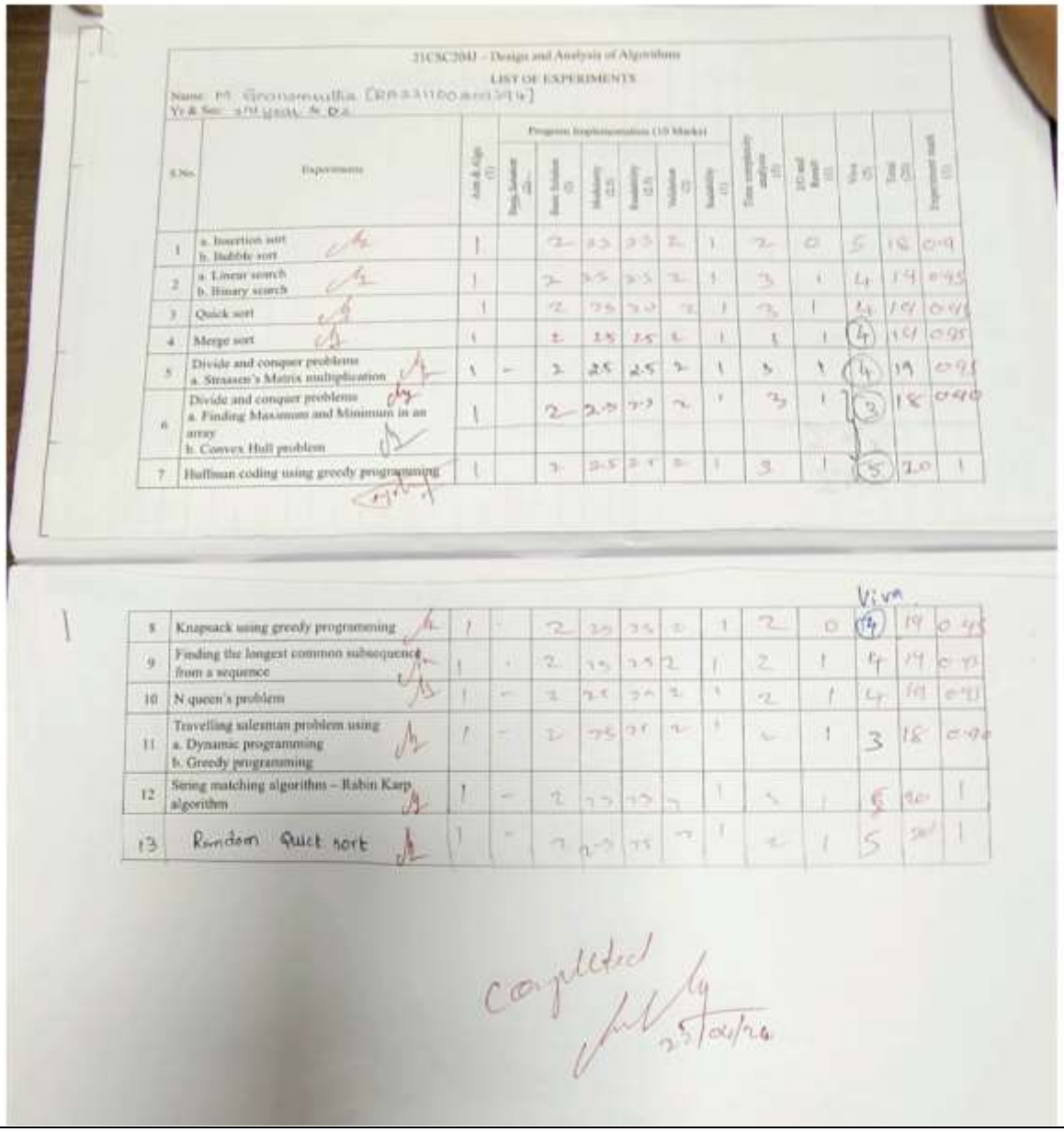
Subject Title: 21CSC204J Design and Analysis of Algorithm

Handled By: Dr. Arulalan v

ElAb Completion Status



Lab Experiment Completion status



21CSC204J – Design and Analysis of Algorithms

LIST OF EXPERIMENTS

Name: M. Gnanamudha [RA2311003010314]

Yr & Sec: 2nd year & D2

S.No.	Experiments	Aim & Algo (5)	Program Implementation (10 Marks)						Time complexity analysis (5)	Viva-voce (5)	Total (25)	Experiment mark (C)
			Basic Solution (5)	Basic Solution (5)	Modularity (2.5)	Readability (2.5)	Validation (2)	Readability (1)				
1	a. Insertion sort b. Bubble sort	1		2	2.5	2.5	2	1	2	0	5	18	0.9
2	a. Linear search b. Binary search	1		2	2.5	2.5	2	1	3	1	4	19	0.95
3	Quick sort	1		2	2.5	2.5	2	1	3	1	4	19	0.95
4	Merge sort	1		2	2.5	2.5	2	1	3	1	4	19	0.95
5	Divide and conquer problems a. Strassen's Matrix multiplication	1	-	2	2.5	2.5	2	1	3	1	4	19	0.95
6	Divide and conquer problems a. Finding Maximum and Minimum in an array b. Convex Hull problem	1		2	2.5	2.5	2	1	3	1	3	18	0.90
7	Huffman coding using greedy programming	1		2	2.5	2.5	2	1	3	1	5	20	1

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8	Knapsack using greedy programming	1	-	2	2.5	2.5	2	1	2	0	4	19	0.95
9	Finding the longest common subsequence from a sequence	1	-	2	2.5	2.5	2	1	2	1	4	19	0.95
10	N queen's problem	1	-	2	2.5	2.5	2	1	2	1	4	19	0.95
11	Travelling salesman problem using a. Dynamic programming b. Greedy programming	1	-	2	2.5	2.5	2	1	2	1	3	18	0.90
12	String matching algorithm – Rabin Karp algorithm	1	-	2	2.5	2.5	2	1	2	1	5	20	1
13	Random Quick sort	1	-	2	2.5	2.5	2	1	2	1	5	20	1

completed

REAL WORLD APPLICATION IN DAA

TITLE OF THE PROJECT: ENERGY-EFFICIENT ROUTING PROTOCOLS FOR WIRELESS SENSOR NETWORKS

ABSTRACT: Networks of distributed devices (sensors) that monitor and record conditions in a different environments and coordinate to pass their data through the network to a main location. WSNs are crucial for applications like environmental monitoring, healthcare, home automation, and military uses. Most sensor nodes are battery-operated, making energy conservation a critical design consideration.

REAL-WORLD APPLICATIONS OF WSNS:

Agriculture: Use WSNs for precision farming techniques, monitoring soil moisture and conditions, optimizing irrigation schedules, and reducing water usage.

Healthcare Monitoring: Implement WSNs for remote health monitoring, tracking patient vital signs, and providing real-time data to medical professionals, enhancing patient care.

Environmental Monitoring: Deploy sensor networks for monitoring air and water quality, detecting forest fires early, and observing wildlife, contributing to conservation efforts.

Smart Cities: Utilize WSNs for managing traffic flows, monitoring public infrastructure, enhancing public safety, and optimizing energy use in urban environments

GITHUB PROFILE

https://github.com/RA2211003011294/daa-real-world-project

NPTEL Certificate

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

MALLELA GNANAMRUTHA

for successfully completing the course

Design and Analysis of Algorithms

with a consolidated score of **46** %

Online Assignments	15.5/25	Proctored Exam	30/75

Total number of candidates certified in this course: **646**

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Mar 2024

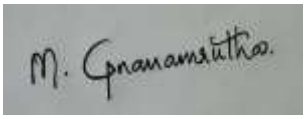
(8 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL24CS23S153404587 To verify the certificate No. of credits recommended: 2 or 3



Signature

Note: Enclose the assignment and relevant certificates along with the profile