

# DATA STRUCTURE AND ALGORITHMS LAB

SUBJECT CODE: PCC CS391

Odd Semester\_2024

ASSIGNMENTS	MODULEDETAILS	EEPERIMENT DETAILS	Date of Experiment	Date of Submission
ARRAY				
Assignment 1	Array Operations	Write the C programs to implement array operations: a) Insert a number in to a specific position of an array b) Delete a number from a specific position of an array c) Display the elements of an array	GR-A 22/07/2024  GR-B 25/07/2024	GR-A 29/07/2024  GR-B 01/08/2024
LINKED LIST				
Assignment 2	Single Linked List Creation Operation	Write a C program to Create and Display a Single Linked List.	GR-A 29/07/2024  GR-B 01/08/2024	GR-A 05/08/2024  GR-B 8/08/2024
Assignment 3	Single Linked List Insertion Operations	Write the C programs for the following operations: a) Insert a node at the beginning of a Single Linked List b) Insert a node at the end of a Single Linked List c) Insert a node at a specific position of a Single Linked List	GR-A 05/08/2024  GR-B 8/08/2024	GR-A 12/08/2024  GR-B 14/08/2024
Assignment 4	Single Linked List Deletion Operations	Write the C programs for the following operations: a) Delete a node from the beginning of a Single Linked List b) Delete a node from the end of a Single Linked List c) Delete a node from a specific position of a Single Linked List	GR-A 12/08/2024  GR-B 14/08/2024	GR-A 19/08/2024  GR-B 22/08/2024
Assignment 5	Circular Linked List Insertion Operations	i)Write a C program to Create and Display a Circular Linked List. ii) Write the C programs for the following operations: a) Insert a node at the beginning of a Circular Linked List. b) Insert a node at the end of a Circular Linked List.	GR-A 02/09/2024  GR-B 29/08/2024	GR-A 09/09/2024  GR-B 05/09/2024
	Circular Linked List Deletion Operations	Write the C programs for the following operations: a) Delete a node from the beginning of a Circular Linked List. b) Delete a node from the end of a Circular Linked List.		
Assignment 6	Double Linked List Insertion Operations	Write a C program to Create a Double Linked List and implement the following operations: i) Insert a node at the beginning of a Double Linked List. i)Insert a node to a specific position of a Double Linked List. iii) Insert a node at the end of a Double Linked List. Double Linked List [Consider first and last position.	GR-A 09/09/2024  GR-B 12/09/2024	GR-A 18/09/2024  GR-B 19/09/2024

	Double Linked List Deletion Operations	Write a C program to delete a node from a specific position of a Double Linked List [Consider first and last position].		
Assignment 7	Circular Double Linked List Insertion Operations	Write a C program to create a Circular Double Linked List and to insert a node to a specific position of a Circular Double Linked List [Consider first and last position].	GR-A 18/09/2024	GR-A 23/09/2024
	Circular Double Linked List Deletion Operations	Write a C program to delete a node from a specific position of a Circular Double Linked List [Consider first and last position].	GR-B 19/09/2024	GR-B 26/09/2024
STACK				
Assignment 8	PUSH and POP Operations of Stack using Array	Write a C program to implement PUSH and POP operations of STACK using array.	GR-A 23/09/2024  GR-B 26/09/2024	GR-A 30/09/2024  GR-B 04/10/2024
Assignment 9	PUSH and POP Operations of Stack using linked list	Write a C program to implement PUSH and POP operations of STACK using linked list.	GR-A 30/09/2024  GR-B 04/10/2024	GR-A 21/10/2024  GR-B 24/10/2024
Assignment 10	Recursion using Stack	Write the C programs using recursion for the followings: a) Factorial of a number b) Fibonacci Series c) GCD of two numbers	GR-A 21/10/2024  GR-B 24/10/2024	GR-A 04/11/2024  GR-B 06/11/2024
QUEUE				
Assignment 11	Insert and Delete Operations of Queue using array	Write a C program to implement Insert and Delete operations of QUEUE using array.	GR-A 04/11/2024  GR-B 06/11/2024	GR-A 11/11/2024  GR-B 14/11/2024
Assignment 12	Insert and Delete Operations of Queue using linked list	Write a C program to implement Insert and Delete operations of QUEUE using linked list.	GR-A 11/11/2024  GR-B 14/11/2024	GR-A 18/11/2024  GR-B 21/11/2024
SORTING				
Assignment 13	Sorting Algorithm	Write the C programs for the followings: a) Bubble Sort algorithm. b) Selection Sort algorithm. c) Insertion Sort algorithm	GR-A 18/11/2024  GR-B 21/11/2024	GR-A 25/11/2024  GR-B 28/11/2024
SEARCHING				
Assignment 14	Searching Operations	Write the C programs for the followings: a) Linear search algorithm b) Binary search algorithm	GR-A 25/11/2024  GR-B 28/11/2024	GR-A 2/12/2024  GR-B 5/12/2024