

**BHARATIVIDYAPEETH’S**

**INSTITUTEOFCOMPUTERAPPLICATIONS&MANAGEMENT (BVICAM)**

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**Course Code: MCA-109 Course Name: Data and File Structures**

Practice Questions (Practical)

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| UNIT I |
|  | Write a C program to find the sum of all elements in an integer array. |
|  | Implement a function in C to reverse an array of integers. |
|  | Develop a program to find the maximum and minimum elements in an array. |
|  | Write a C program to sort an array of integers using the bubble sort algorithm. |
|  | Create a function to merge two sorted arrays into a single sorted array in C. |
|  | Implement a singly linked list in C with functions to insert, delete, and display nodes. |
|  | Write a C program to reverse a singly linked list iteratively. |
|  | Develop a function in C to find the middle element of a singly linked list. |
|  | Create a program to check if a linked list is cyclic or acyclic in C. |
|  | Implement a function in C to merge two sorted linked lists into a single sorted linked list. |
|  |  Write a C program to implement a stack using an array with push and pop operations. |
|  | Develop a function in C to check if a given string of parentheses is balanced using a stack. |
|  | Create a C program to evaluate a postfix expression using a stack. |
|  | Implement a function in C to reverse a stack using recursion. |
|  | Write a program to convert an infix expression to a postfix expression using a stack in C. |
|  | Implement a queue using an array with enqueue and dequeue operations in C. |
|  | Write a C program to implement a circular queue using an array. |
|  | Develop a function in C to reverse the first K elements of a queue. |
|  | Create a program to simulate a priority queue using a max-heap in C. |
|  | Implement a double-ended queue (deque) in C with insert and delete operations at both ends. |
|  |  Write a C program to implement a binary search tree (BST) with insert, delete, and search operations. |
|  | Develop a function in C to find the height of a binary tree. |
|  | Implement a program to perform level order traversal of a binary tree in C. |
|  | Create a function to check if two binary trees are identical in C. |
|  | Write a C program to perform a post-order traversal of a binary tree using recursion. |
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 |  Implement a max-heap in C with insert and delete operations. |
|  | Write a C program to sort an array using the heap sort algorithm. |
|  | Develop a function in C to find the Kth smallest element in an array using a min-heap. |
|  | Implement a priority queue using a max-heap in C. |
|  | Create a C program to check if a given binary tree is a max-heap or not. |
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**\*\*\*\*\*\*\*\*\*\*\*\*\*\*Wish you luck!\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***