

# Dr. Bhimrao Ambedkar Polytechnic College, Gwalior

Department of Computer Science and Engineering

Subject Name - **Data Structure and Algorithm (CS-302)**

Roll Number : .....

Name : .....

S.No.	Title	Teacher Sign.
36	Write a program that takes n elements from the user and stores them into an Array. Print all elements of Array.	
37	Write a program that takes n elements from the user, stores them into an Array, and prints the sum of all elements.	
38	Write a program that takes n elements from the user, stores them into an Array, and prints the biggest number and its position.	
39	Write a program that takes n elements from the user, stores them into an Array, and prints the biggest, second biggest, and third biggest number and their positions.	
40	Write a program that takes n elements from the user, stores them into an Array, and prints the smallest, second smallest, and third smallest number and their positions.	
41	Write a program that takes n elements from the user, stores them into an Array, and reverses the array. Print all elements of the array before and after reversing the Array.	
42	Write a non-returnable function to print "hello world!!" n times.	
43	Write a returnable function that returns the addition of two integers.	
44	Write a returnable function that returns $m^n$ . mypower(m,n)	
45	Write a returnable function that returns the factorial of a number. myfact(m)	
46	Do the last two programs using recursion.	
47	Write a program that creates a pointer variable (*p) and integer variable (x). Initialize the pointer with the address of the variable. Print the values of p,*p,x,&x after and before changing the value of x.	
48	Write a function that takes an array and returns the position	

	of the smallest number.	
49	Write a function that takes an array and a number says t. The function should search t in an array and return the position of t. If t is not present in the array, the function should return -1.	
50	Write a program that takes the elements of a 4x3 matrix from the user, store it into a two-dimensional array. Print all elements of the matrix.	
51	Write a program that takes m,n from the user and also takes the m x n size matrix $[A]_{m \times n}$ from the user and stores the matrix into a 2-D array. Print the transpose of matrix $[A]_{n \times m}$ .	
52	Write a program that takes your name as input and stores the name into an array and prints the name in small letters and in capital letters.	
53	Write a function that takes a string as input and returns the length of the strings.	
54	Write a function that takes two strings from the user and print the concatenated string.	
55	Write a function that takes a string as input and print the reversed string.	
56	Write a function that takes two strings from the user and returns 0 if both the strings match, returns 1 if both the strings mismatch.	
57	Write a function that takes a string as input and print the reversed string.	
58	Write a program that takes a string as input and convert the number into float number and store the number into a float variable.	
59	Write a function that takes two string and search first string inside the second string if first string is found in second it should return the position if string is not found than it should return 0. Ex: find("Hello","Hello World")--> 1 find("World","Hello World")--> 7 find("Amit","Hello World")--> 0	
60	Write a program to perform Linear search in an array.	
61	Write a program to perform binary search in an array.	

62	Write a program To perform Bubble Sort to an unsorted array.	
63	Write a program To perform Selection Sort to an unsorted array.	
64	Write a program To perform Insertion Sort to an unsorted array.	
65	Write a program To perform Merge Sort to an unsorted array.	
66	Write a program To perform Quick Sort to an unsorted array.	
67	Write a program to solve Tower of Hanoi Problem.	
68	Write a program that takes marks of Physics, Chemistry, Maths from user and store the marks, rollno, and name into an structure.	
69	Create an array of student structure, store the marks and compute the average of each student and print the name of topper student.	
70	Write a program which takes complex number from user, store it into an structure and create following function: input(), show(), add(), subtract(), multiply(), divide()	
71	Write a program to perform following operations on Singly Linked list (a) Create (b) Insert (Beginning, End, nth) (c) Delete (Beginning, End, nth) (d) Traverse	
72	Write a program to perform following operations on Doubly Linked list (a) Create (b) Insert (c) Delete (d) Traverse	
73	Write a program to perform following operations on Circular Linked list (b) Create (b) Insert (c) Delete (d) Traverse	
74	Write a program to perform following operations on Doubly Circular Linked list (c) Create (b) Insert (c) Delete (d) Traverse	
75	Write a program to perform following operations on Stack using Array (a) Create (b) Insert (c) Delete (d) Traverse	
76	Write a program to perform following operations on Queue (a) Create (b) Insert (c) Delete (d) Traverse	

77	Write a program to perform following operations on Circular Queue (a) Create (b) Insert (c) Delete (d) Traverse	
78	Create following function for Binary Search Tree (a) Insertion (b) Deletion (c) Traversing (In-Order, Pre-Order, Post-Order) (d) Search	
79	Write a function that return the height of the tree.	
80	Write a program to perform heap sort to an unsorted array.	
81	Write a program to store a n vertices simple graph into an two dimensional array and print the all vertices using following searching/ traversing techniques. (a) BFS (b) DFS	
82	Write a program to store a n vertices simple weighted graph into an two dimensional array and print the minimum spanning tree using following algorithms. (a) Prim's Algo (b) Kruskal's Algo	