Ahsanullah University of Science and Technology, Bangladesh

CSE 1102: Elementary Structured Programming Lab (Fall 24)

Practice Problems

Array (1D,2D)

SL	Problem statement	
1	Write a program in C to store elements in an array and print it. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 100 2 300 1 2 **Output:** You entered the following array elements: 100 2 300 1 2	
2	Write a program in C to copy the elements of one array into another array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 100 2 300 1 2 **Output:** The elements in array are as follows: 100 2 300 1 2	
3	Write a C program to put even and odd elements of an array in two separate arrays.	
4	Write a program in C to find the sum of all elements of the array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 100 2 300 1 2 **Output:** The sum of your array elements is : 504	
5	Write a program in C to read n number of values in an array and display it in reverse order.	
6	Write a program in C that will reverse an array.. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 100 2 300 1 2 **Output:** Your array after reversing: 2 1 300 2 100	
7	Write a program in C to find a value in the array.	
8	Write a program in C to insert a new value at the end of an array.	
9	Write a program in C to insert a new value at a particular position of an array.	
10	Write a program in C to delete an element at the desired position from an array.	
11	Write a C program to left rotate an array.	
12	Write a C program to right rotate an array.	

13	Write a program in C to find the maximum and minimum element in an array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 100 2 300 1 2 **Output:** The maximum element is 300. The minimum element is 1.	
14	Write a program in C to count the total number of duplicate elements in an array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 1 2 3 1 2 **Output:** total number of duplicate elements : 2	
15	Write a program in C to count the frequency of each element of an array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 99 2 99 1 2 **Output:** The frequency of 99 is 2. The frequency of 2 is 2. The frequency of 1 is 1	
16	Write a program in C to print all unique elements in an array. **Input :** Enter the number of elements for your array: 5 Enter the array elements: 1 2 3 1 4 **Output:** Unique elements : 2 3 4	
17	Write a program in C to find the number occurring the odd number of times in an array.	
18	Write a program to sort array in ascending order	
19	C Program to Read and Print a RxC Matrix, R and C must be input by the User. **Input :** Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 2 3 4 **Output:** You entered the following matrix:. 1 2 3 4	
20	Write a C Program to find sum and subtraction of two matrices **Input :** Inputs for matrix 1: Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 2 3 4 Inputs for matrix 2:	

	Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 1 1 1 **Output:** The sum of the two matrices: 2 3 4 5 The diff between the two matrices: 0 1 2 3	
21	Write a C Program to find the summation of each row of a matrix **Input :** Inputs for matrix 1: Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 2 3 4 **Output:** The summation of row 1: 3 The summation of row 2: 7	
22	Write a C program for matrix multiplication. **Input :** Inputs for matrix 1: Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 2 3 4 Inputs for matrix 2: Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 1 1 1 **Output:** Matrix multiplication result: 3 3 7 7	
23	Write a C program to print the right diagonal elements of a matrix. **Input :** Inputs for matrix 1: Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements: 1 2 3 4 **Output:** The elements of the diagonal are: 1 4	
24	Write a C program to print the left diagonal elements of a matrix. **Input :** Inputs for matrix : Enter the value of R: 2 Enter the value of C : 2 Enter the matrix elements:	

	1 2 3 4 **Output:** The elements of the diagonal are: 2 3	
25	Write a C program to print the lower triangular of a matrix: **Input :** Inputs for matrix : Enter the value of R: 3 Enter the value of C : 3 Enter the matrix elements: 1 2 3 4 5 6 7 8 9 **Output:** lower triangular of a matrix 1 4 5 7 8 9	
26	Write a C program to print the transpose of a matrix: **Input :** Inputs for matrix : Enter the value of R: 3 Enter the value of C : 3 Enter the matrix elements: 1 2 3 4 5 6 7 8 9 **Output:** transpose of the matrix 1 4 7 2 5 8 3 6 9	