Day : 17
TOPIC : Functions with 2D Arrays

Lab Assignments

Q#	Experiment Details	Input	Output
1.	Write a C program to determine the sum of elements of a 2-D array using a function ELESUM.	**Set 1:** Enter the row and column size of the matrix: 3 4 Enter the matrix: 4 5 6 2 1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix: 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	**Set 1:** Sum of the elements of the given array: 44 **Set 2:** Sum of the elements of the given array: 38
2.	Write a C program to determine the sum of main diagonal elements of a 2-D array of size 3x3 using a function SUMDIAGONAL.	**Set 1:** Enter a 3x3 size matrix: 1 2 3 4 5 6 7 8 9 **Set 2:** Enter a 3x3 size matrix: 1 1 1 2 2 2 3 3 3	**Set 1:** Sum of the main diagonal elements of the given array: 15 **Set 2:** Sum of the elements of the given array: 6
3.	Write a C program to determine the largest and smallest element of a 2-D array. Use functions LARGEST and SMALLEST for the given purpose.	**Set 1:** Enter the row and column size of the matrix: 3 4 Enter the matrix: 4 5 6 2 1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix:	**Set 1:** Largest element of array is 9 Smallest element of array is -2 **Set 2:** Largest element of array is 8 Smallest element of array is -7

		5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	
4.	Write a C program to find the sum of only PRIME values in a 2-D array using a function PRIMESUM.	**Set 1:** Enter the row and column size of the matrix: 3 4 Enter the matrix: 4 5 6 2 1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix: 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	**Set 1:** Sum of prime elements = 17 **Set 2:** Sum of prime elements = 18
5.	Write a C program to perform addition of two matrices and display the result using 3rd matrix.	**Set 1:** Enter matrix1: 1 2 3 4 5 6 7 8 9 Enter matrix2: 1 1 1 2 2 2 3 3 3 **Set 2:** Enter matrix1: 1 2 3 -4 5 -6 7 -8 9 Enter matrix2: 1 1 1 1 1 1 1 1 1	**Set 1:** Result matrix 2 3 4 6 7 8 10 11 12 **Set 2:** Result matrix 2 3 4 3 6 5 8 7 10

Home Assignments (Practice Problems)

Q#	Experiment Details	Input	Output
1.	Write a C program to determine the sum of largest and smallest	**Set 1:** Enter the row and column size of the	**Set 1:** Sum of largest and smallest

	element of a 2-D array.	matrix: 3 4 Enter the matrix: 4 5 6 2 1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix: 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	elements: 7 **Set 2:** Sum of largest and smallest elements: 1
2.	Write a C program to swap the largest and smallest element of a 2-D array of using a function SWAP.	**Set 1:** Enter the row and column size of the matrix: 3 4 Enter the matrix: 4 5 6 2 1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix: 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	**Set 1:** Entered matrix 4 5 6 2 1 9 3 0 7 -2 1 8 Matrix after swapping 4 5 6 2 1 -2 3 0 7 9 1 8 **Set 2:** Entered matrix 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0 Matrix after swapping 5 6 2 4 3 0 8 1 -7 4 4 5 0 3 0
3.	Write a C program to sort the elements of a values in a 2-D array using a function SORTELE.	**Set 1:** Enter the row and column size of the matrix: 3 4 Enter the matrix: 4 5 6 2	**Set 1:** Entered matrix 4 5 6 2 1 9 3 0 7 -2 1 8 Matrix after sorting

		1 9 3 0 7 -2 1 8 **Set 2:** Enter the row and column size of the matrix: 5 3 Enter the matrix: 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0	-2 0 1 1 2 3 4 5 6 7 8 9 **Set 2:** Entered matrix 5 6 2 4 3 0 -7 1 8 4 4 5 0 3 0 Matrix after sorting -7 0 0 0 1 2 3 3 4 4 4 5 5 6 8
4	Write a C program to perform multiplication of two matrices of size 3x3 and display the result using 3rd matrix.	**Set 1:** Enter matrix1: 2 3 4 3 5 6 4 5 3 Enter matrix2: 1 2 1 -1 2 1 3 2 1 **Set 2:** Enter matrix1: 2 3 1 7 4 1 9 -2 1 Enter matrix2: 9 -2 -1 5 7 3 8 1 0	**Set 1:** Entered matrix1: 2 3 4 3 5 6 4 5 3 Entered matrix2: 1 2 1 -1 2 1 3 2 1 Result matrix 11 18 9 16 28 14 8 24 12 **Set 2:** Enter matrix1: 2 3 1 7 4 1 9 -2 1 Enter matrix2: 9 -2 -1 5 7 3 8 1 0 Result matrix 41 18 7 91 15 5 79 -31 -15