

CL1002 – Programming Fundamentals Lab

Practice Problems

Problem: 1 | 2d Array

Write a program which inputs a 2-Dimensional array of size 4x3, find the smallest element in it.

Problem: 2 | 2d Array

Write a C Program to Find the Transpose of a Matrix.

The program takes a matrix and prints the transpose of the matrix. In a transpose matrix, rows become columns and vice versa.

Expected Output:

The matrix is:

1 2

3 4

The transpose of a matrix is:

1 3

2 4

Problem: 3 | 2d Array

Write a program which inputs a 2-Dimensional array of size 3x3, and display row-wise sum of matrix.

Expected Output:

The matrix is:

5 6 1

7 8 1

The sum of rows of the matrix is:

Row 1: 12

Row 2: 16

Problem: 4 | Array 1 Dimensional

Create a C program that prompts the user to input a student number, followed by their name, father's name, and class. The program should then display the information for all students based on their respective classes.

Sample output:

Enter number of students: 3

Enter student number: 101

Enter name: John Doe

Enter father's name: Michael Doe

Enter class: 10

Enter student number: 102

Enter name: Jane Smith

Enter father's name: Robert Smith

Enter class: 12

Enter student number: 103

Enter name: Alex Johnson

Enter father's name: David Johnson

Enter class: 10

Student Information:

Student Number	Name	Father's Name	Class
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101	John Doe	Michael Doe	10th
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103	Alex Johnson	David Johnson	10th
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102	Jane Smith	Robert Smith	12th
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Additional Task

Problem: 5 | 2d Array

Write a C Program to Perform Matrix Multiplication.

1. The program takes two matrices and multiplies them
2. If the number of columns of matrix A is not equal to number of rows of matrix B, then matrices cannot be added.
4. Else they are multiplied, and the result is printed.
5. Exit.

