

Quiz 4 - Monday

6 points

Nov 4, 2024

Name:

Student Number:

Complete the C code for the following functions:

- `double **allocate2Darray(<inputs>)`: Allocate a 2D array with size of `nRows*nCols`.
- `void free2Darray(<inputs>)`: Free the memory allocated for a 2D array.
- `double **MatrixAddition(<inputs>)`: Implement the matrix addition logic.

We have matrix addition $C = A + B$, where the dimensions of the matrices are as follows:

$$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{bmatrix} \quad B = \begin{bmatrix} b_{11} & b_{12} & b_{13} \\ b_{21} & b_{22} & b_{23} \end{bmatrix}$$

The resulting matrix C will also have dimensions 2×3 :

$$C = \begin{bmatrix} c_{11} & c_{12} & c_{13} \\ c_{21} & c_{22} & c_{23} \end{bmatrix} \quad (\text{size } 2 \times 3)$$

Now, each element c_{ij} in C is computed as follows:

$$c_{11} = a_{11} + b_{11}$$

$$c_{12} = a_{12} + b_{12}$$

$$c_{13} = a_{13} + b_{13}$$

$$c_{21} = a_{21} + b_{21}$$

$$c_{22} = a_{22} + b_{22}$$

$$c_{23} = a_{23} + b_{23}$$

IMPORTANT NOTES:

- No need to write `int main()`.