

Homework Assignment 12

Q1. State True/False :

- i. The size of an array cannot be changed while running a program
- ii. when declaring and initializing a 2-D array, number of columns need not be specified
- iii. A 5x3 matrix can be multiplied by a 3x5 matrix to output a 5x5 matrix
- iv. In C there is no specified limit on the number of dimensions an array can have

Q2. Fill in the blanks.

- i. Assuming a 4 byte int, the int array `a[5][10]` occupies ----- bytes of memory
- ii. In the memory layout of the array `a[5][10]`, `a[3][0]` is preceded by -----

Q3. Choose the best option:

`A[5][5] = {{1}};`

- i. sets all elements to 1
- ii. sets `a[0][0]` to 1 and remaining elements to 0
- iii. sets `a[0][0]` to 1
- iv. Fails on compilation

Q4. Short answer questions.

- i. If `arr` is an array of type `int`, what is the significance of the expression `sizeof arr / sizeof (int)`? What is the advantage of this expression?

Q4. Programming :

- i. Write a program that compares for equality of 2D arrays having 3 rows and 5 columns. Print the unequal values in the form `element[m][n] = value 1, value 2`