

- A 2-dimensional array in C is an array of arrays.
- It allows you to store and access elements in a tabular format with rows and columns.
- The elements in a 2D array are typically referred to using two indices, representing the row and column positions.

Here's the general syntax for declaring and initializing a 2D array in C:



```
datatype arrayName[rowSize][columnSize];
```

Here's an example of declaring and initializing a 2D array of integers:



```
int matrix[3][4]; // 3 rows and 4 columns
```

You can also initialize the elements of a 2D array during declaration:



```
int matrix[3][4] = {  
    {1, 2, 3, 4},    // first row  
    {5, 6, 7, 8},    // second row  
    {9, 10, 11, 12} // third row  
}
```

```
};
```

To access individual elements in a 2D array, you use the row and column indices:



```
int element = matrix[rowIndex][columnIndex];
```

Here's an example that demonstrates accessing and modifying elements in a 2D array:



```
#include <stdio.h>

int main() {
    int matrix[3][4] = {
        {1, 2, 3, 4},
        {5, 6, 7, 8},
        {9, 10, 11, 12}
    };

    printf("Element at matrix[1][2]: %d\n", matrix[1][2]); //
    Accessing element
    matrix[1][2] = 99; //
    Modifying element
    printf("Modified element at matrix[1][2]: %d\n", matrix[1][2]);

    return 0;
}
```

```
}
```

In this example,

- We declared and initialized a 2D array called matrix with 3 rows and 4 columns.
- We then accessed the element at matrix[1][2] (which is 7) and modified it to 99.
- Finally, we printed the modified element.

Remember that the indices in a 2D array start from 0. The first index represents the row number, and the second index represents the column number.

Related Posts:

1. C program to convert inch to feet
2. C program to convert KM to CM
3. C program to convert meter to centimeter
4. C program to calculate remainder, difference, division, product
5. C program to use printf() without semicolon " ; "
6. C program to swap two numbers using 2 variables
7. C program to find nth term using Arithmetic progression
8. C program to find sum of first n even positive numbers
9. C program to calculate sum of first n even numbers
10. C program to find nth odd number
11. C program to find sum of first n odd positive numbers
12. C program to calculate perimeter and area of a rectangle
13. C program to calculate perimeter and area of a square
14. C program to calculate Perimeter and Area of Circle
15. Function in C Programming

16. C Programming Q & A
17. Main function in C Programming Q and A
18. Void main in C Programming
19. Variables Q and A in C Programming
20. Write a C Program to find the percentage of marks ?
21. Write a c program to find age of a person ?
22. Write a c program to get table of a number
23. What is Break statement in C Programming ?
24. Write a c program to generate all combinations of 1, 2 and 3 using for loop.
25. Write a C program to print all the prime numbers between 1 to 50.
26. Write a C program to get factorial of a number ?
27. What is user defined function in C programming ?
28. Difference between C and C++ Programming ?
29. Difference between C, C++ and Java Programming
30. C program addition of numbers using pointer
31. C Syntax
32. Comments in C
33. Variables in C
34. Data types in C
35. Format specifiers in C
36. Type Conversion in C
37. Constants in C
38. Operators in C
39. Pre and Post Increment Practice Problems
40. Pre and Post Increment
41. Array in C
42. C Introduction

43. C Get Started
44. C Pointers
45. C History
46. C Program Compiling and running
47. C While loop
48. C Do While Loop
49. C For loop
50. break and continue statement
51. Control Statements in C
52. C if-else ladder
53. C if statements
54. C String library functions
55. C Functions
56. C Functions Categories
57. C Actual Arguments
58. Write a program that prints the message "Hello, World!"
59. Write a program that asks the user to enter two numbers, and then prints the sum of those two numbers.
60. Write a program that asks the user to enter a number and then determines whether the number is even or odd.
61. Write a program that swaps the values of two variables.
62. Write a program that asks the user to enter a number and then calculates and prints its factorial.
63. Write a program that asks the user to enter a number N and then prints the first N numbers in the Fibonacci sequence
64. Write a program that swaps the values of two variables without using a temporary variable

- 65. Converts a number into integer, float, and string
- 66. Program to find the length of the string
- 67. Program to convert string to uppercase or lowercase
- 68. Program to prints the numbers from 1 to 10.
- 69. What is identifier expected error
- 70. Difference between static and non static methods in Java
- 71. C String Input
- 72. C Character input
- 73. C Programming Variables MCQ
- 74. Object & Classes
- 75. C Programming find the output MCQs