

# Array & strings

## MCQs.

1. What will happen if we assign a value to an array element whose size of subscript (index) is greater than the size of an array in C programming?

**Case:**

```
#include <stdio.h>
int main()
{
    int arr[10];
    arr[15]=200;
    printf("%d",arr[15]);
    return 0;
}
```

- a. A compilation error occurs.
- b. The element will be set to 0.
- c. The program crashes at run time.
- d. The array size increases automatically.

2. In C, if user passes array as an argument then, what actually get passes?

- a. Base address of the array will be passed.
- b. Value of first element is passed.
- c. Value of last element is passes.
- d. Address of last element is passed.

3. What happens if you try to access an element outside the bounds of an array in C?

- a. It returns 0.
- b. It returns the last element of the array.
- c. It gives a compile-time error.

d. It leads to undefined behavior.

4. How do you find the number of elements in an array `arr` in C?

a. `length(arr)`

b. `size(arr)`

c. `sizeof(arr) / sizeof(arr[0])`

d. `arr.length()`

5. What is the index of the last element in an array `data` with 8 elements?

a. 8

b. 7

c. 6

d. 0

6. What is the correct way to declare a two-dimensional integer array named `matrix` with 3 rows and 4 columns in C?

a. `int matrix[3, 4];`

b. `int matrix[3][4];`

c. `matrix[3][4];`

d. `array matrix[3][4];`

7. What is the index of the last row in a two-dimensional array `data` with dimensions 5x4?

a. 5

b. 4

c. 3

d. 0

8. Which of the following statements initializes all elements of a two-dimensional array `matrix` to zero in C?

a. `int matrix[][] = {0};`

b. `int matrix[0][0] = 0;`

c. `int matrix[][] = {{0}};`

d. `int matrix[3][3] = {0};`

9. What is the minimum and maximum Indexes of this below array.?

```
int main()  
{  
    int ary[9];  
    return 0;  
}
```

- a. -1, 8
- b. 0, 8
- c. 1,9
- d. None of the above

10. Can we change the starting index of an array from 0 to 1 in any way.?

- a. Yes. Through pointers.
- b. Yes. Through Call by Value.
- c. Yes. Through Call by Reference.
- d. None of the above.

11. If the two strings are identical, then strcmp() function returns

- a. -1
- b. 1
- c. 0
- d. Yes

12. How will you print \n on the screen?

- a. printf("\n");
- b. echo "\\n";
- c. printf('\n');
- d. printf("\\n");

13. Which of the following function is more appropriate for reading in a multi-word string?

- a. printf();
- b. scanf();
- c. gets();

d. puts();

## Programming Problems

1. Write a C program to create an integer array and store the EVEN and ODD elements in two different arrays.

**Example output:**

Enter the array elements: 10 20 30 40 55 77

Even elements: 10 20 30 40

Odd elements: 55 77

2. Write a C program to print the square of array elements.

**Example Output:**

Array elements:

1 2 3 4 5

Square of array elements:

1 4 9 16 25

3. Write a C program to find the difference between the largest and smallest element in the array.

For example, if we have an array {10,5,7,8,12,6,3} Then the program should print the difference of 10 & 3 which will be 7.

4. Write a C program to check prime numbers in an array.

5. Write a C Program to create an array with reverse elements of another array in C.

For example, if we have one array as {2,4,6,8,10} the reverse array should have elements {10,8,6,4,2}.

6. Write a c program to read a matrix and find sum and product of all elements of two dimensional (matrix) array.

7. Write a c program to find Sum of all elements of each row of a matrix.

8. Write a C Program to Transpose a Matrix.

9. Write a C Program to find the sum, subtraction, and multiplication of two matrices.

10. Write a C program to check whether a given matrix is an identity matrix or not.

11. Write a C program to find the frequency of even numbers in a matrix.

12. Write a program in C to find the length of a string without using library function.

**Test Data:**

Input the string: phoenixbit

Expected Output:

Length of the string is: 10

13. Write a program in C to count total number of vowel or consonant in a string.

14. Write a C program to swap the case of each character of a string.

**Test Data:**

Input the string: HelloWorld

Expected output: hELLOwORLD

15. Write a C program to check whether a string is palindrome or not.

16. Write a program in C to replace the spaces of a string with a specific character ( replace space with \*)

17. Write a C program to remove all repeated characters from a given string.

