

qSheet 2_Arrays

Coding Questions:

1. Write a C++ program to first input 10 values into 1-dimension array and then print the sum and the average on the screen.
2. Write a C++ program to first input 20 values into 1-dimension array and then print the sum and the average of even values in the array on the screen.
3. Write a C++ program to first input 10 values into 1-dimension array and then print on the screen the sum and the average of the values in the odd index of the array.
4. Write a C++ program to create an array representing sales of a week. Enter the sales values of each day of the week and then calculate the sum and the average of the sales in this week and print the results on the screen.
5. Write a program to allow a user to input 10 integer numbers into an array from the keyboard, and then goes through the array elements, looking for the largest value. Finally, print the largest number on the screen.
6. Write a program to allow a user to input 10 integer numbers into an array from the keyboard, and then goes through the array elements, looking for the minimum value. Finally, print the minimum value on the screen.
7. Write a program to find the smallest and largest values in an array of 50 integer numbers. Print the on the screen the content of the array, the smallest and largest values.
8. Write a program to input 5 values into an array A and then compute the values of another array B such that each element in B represents 5 times of the corresponding element in A. Finally, print both the arrays A and B on the screen.
9. Write a program to input 6 integer numbers into 1D array and then print on the screen the contents of the array, the sum and the average of the values divisible by 5 in the array.
10. Write a program to input the sales of a company in one month in an array, and then find the average of the sales in the week and in the month as well as the sum of the sales and finally print out both the average and the sum.
11. Write a C++ program to first allow a user to input 50 integer numbers into an array. Then, call a function to find and return the min and max values in the array. Finally, print the result on the screen.
12. Write a C++ program to first allow a user to input n integer numbers into an array. Then, call a function to find and return the min value and call another function to find and return the max value. Finally, print the min and the max on the screen.
13. Write a C++ program to first allow a user to input n integer numbers into an array. Then, call a function to find and return the sum of the array contents. Finally, print the sum and the average on the screen.

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Choose the correct answer:

1. Which of the following correctly declares an array?
a) `int array[10];`
b) `int array;`
c) `array{10};`
d) `array array[10];`
2. What is the index number of the last element of an array with 9 elements?
a) 9
b) 8
c) 0
d) Programmer-defined
3. What is the correct definition of an array?
a) An array is a series of elements of the same type in contiguous memory locations
b) An array is a series of element
c) An array is a series of elements of the same type placed in non-contiguous memory locations
d) An array is an element of the different type
4. Which of the following accesses the seventh element stored in array?
a) `array[6];`
b) `array[7];`
c) `array(7);`
d) `array;`

5. What will be the output of the following C++ code?

```
#include<iostream>

using namespace std;

int main ()
{
    int array[] = {0, 2, 4, 6, 7, 5, 3};
    int n, result = 0;
    for (n = 0; n < 8; n++)
    {
        result += array[n];
    }
    cout << result;
    return 0;
```

}

- a) 25
- b) 26
- c) 27
- d) 21

6. Which of the following is valid for declaration of float type array of 10 elements?

- A) float arr[10];
- B) float arr(10);
- C) float arr"10";
- D) float arr<10>;

7. int arr[10] will take how many bytes in memory?

- A) 20
- B) 50
- C) 10
- D) 100

8. In two dimensional array first index represent which of the following?

- A) Rows
- B) Columns
- C) Position
- D) Address

9. Array index starts with

- A) 0
- B) 1
- C) 2
- D) 4

10. Which of the following parenthesis used to write index and size of array?

- A) ()
- B) []

C) <>

D) {}

11. How do you declare a 2D array with 3 rows and 4 columns of integers?

A. `int array[3][4];`

B. `int array[4][3];`

C. `int array[3, 4];`

D. `int array(3, 4);`

12. How do you access the element at the 2nd row and 3rd column of a 2D array named matrix?

A. `matrix[2][3]`

B. `matrix[1][2]`

C. `matrix[2, 3]`

D. `matrix(2, 3)`

13. Which loop is commonly used to iterate through all elements of an array?

A. `for`

B. `while`

C. `do-while`

D. All of the above

14. What is the correct way to initialize an array named values with the elements 1, 2, and 3?

A. `int values {} = {1, 2, 3};`

B. `int values[3] = {1, 2, 3};`

C. `int values[3] = [1, 2, 3];`

D. `int values = {1, 2, 3};`

Bonus Question:

Search about sorting algorithms that are used to sort array elements in an ascending or descending order, Choose one of them and write the code in C++ to sort an array list of 10 integer numbers entered by user from the keyboard in an ascending order and print out the sorted array.