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Matric No. : A20EC0079

1.Define the following arrays:

a. weights, 25 elements of type float.

= float weights [25]

b. ages, 8 elements type integer.

= int ages [8]

c. metrics, 10 elements of type string.

= string metrics [10]

2. Given the definition of the array. Give reason why definition is not correct.

a. float points[6.5];

- The size allocated in the square brackets must be a whole number.

b. int sizeLimit;

- There is no squared bracket declared in the array.

int address[sizeLimit];

- The elements in the squared brackets must be whole numbers.

c. char category[-7];

- The number of elements stored must be a positive whole number.

d. double length[];

- When the squared bracket is empty, values must be inserted.

3. Write C++ statement to perform each of the following:

1. Declare an array named marks to allocate 5 elements if type double.

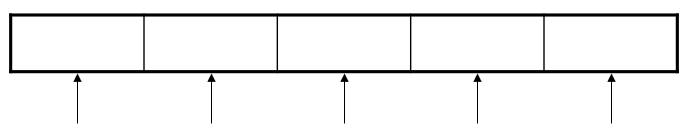


1. Show the memory allocations of the array named marks.

for (int i = 0; i < 5; ++i) {

cout << marks[i] << " ";

}



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| marks[0] | marks[1] | marks[2] | marks[3] | marks[4] |

1. Read the value 15 from the keyboard and assign it into the array named marks of index 3.

cout << "\nEnter the marks :\n";

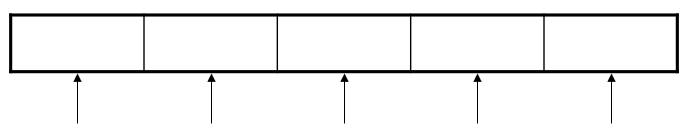
    cin >> marks[3];

1. Show the memory allocations of the array named marks.

for (int i = 0; i < 5; ++i) {

cout << marks[i] << " ";

}



15

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| marks[0] | marks[1] | marks[2] | marks[3] | marks[4] |

1. Add the content of index 3 (i.e marks[3]) with the value 10 and assign the result into marks[4].

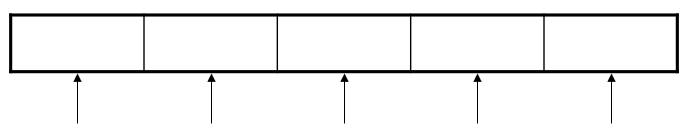


1. Show the memory allocations of the array named marks.

for (int i = 0; i < 5; ++i) {

cout << marks[i] << " ";

}



25

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| marks[0] | marks[1] | marks[2] | marks[3] | marks[4] |

5. Identify which of the following array declaration are invalid. If a declaration is invalid explain your answer.

a. int digits[8] = {2, 4, 5, 3, 5, 1, 8, 0};

- array declaration is valid.

b. int ids[5] = {101, 202, 303, 404, 505, 606, 707};

- Array declaration is invalid because the element is more that the size of array and will caused the element to overwritten with other memory.

c. float length[] = {30.2, 4.99, 5.9};

- Array declaration is valid.

d. int size[8] = {67, , , 66, , 99, 39, 67};

- Array declaration is valid.

e. char feel[] = {‘s’, ‘a’, ‘y’, ‘a’, ‘n’, ‘g’, ‘\0’};

- Array declaration is valid.

f. char name[5] = “Adiba”;

- Array is invalid because the size in the array is not enough because the Elements contain {‘A’,’d’,’i’,’b’,’a’,’\0’} it will be overwritten the memory outside the array size.

g. char name[20] = “Syarifah Aini”;

-Array declaration is valid.

7. Given a part of Program 5.3, trace the program and show the output.

A screenshot of a computer

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| Index1 | Index2 | Array [Index1] [Index2] | Output |
| 0 | 0 | 0 |  |
|  | 1 | 1 |  |
|  | 2 | 2 |  |
| 1 | 0 | 1 |  |
|  | 1 | 2 |  |
|  | 2 | 3 |  |
| 2 | 0 | 2 |  |
|  | 1 | 3 |  |
|  | 2 | 4 |  |
|  |  |  |  |
| 0 | 0 |  | 0 |
|  | 1 |  | 1 |
|  | 2 |  | 2 |
| 1 | 0 |  | 1 |
|  | 1 |  | 2 |
|  | 2 |  | 3 |
| 2 | 0 |  | 2 |
|  | 1 |  | 3 |
|  | 2 |  | 4 |