**ARRAYS**

**Array:**  an array is a collection of elements of the same data type, stored in contiguous memory locations.

1D Array:

ex:

double balance[5] = {1000.0, 2.0, 3.4, 17.09876540, 50.0};

//We can access the elements using the index

cout<<balance[0];

Array using loop:

ex:

string cars[5] = {"Volvo", "BMW", "Ford", "Mazda", "Tesla"};

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

cout << i << " = " << cars[i] << "\n";

}

2D ARRAY:

creating a matrix-like structure with rows and columns. Each element in the 2D array can be accessed using two indices: one for the row and one for the column.

Ex:

#include <iostream>

int main() {

const int rows = 3;

const int cols = 4;

// Declaration and initialization of a 2D array

int myArray[rows][cols] = {

{1, 2, 3, 4},

{5, 6, 7, 8},

{9, 10, 11, 12}

};

// Accessing and printing elements of the 2D array

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

for (int j = 0; j < cols; ++j) {

std::cout << myArray[i][j] << " ";

}

std::cout << std::endl;

}

return 0;

}

//To read the elements from the user at runtime

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

for (int j = 0; j < cols; ++j) {

std::cout<< "enter array elements:"<<"\n";

std::cin >> myArray[i][j] ;

}

std::cout << std::endl;

}

3D ARRAY: combination of two dimensional arrays

Ex:

string letters[2][2][2] = { {

{ "A", "B" },

{ "C", "D" }

},

{

{ "E", "F" },

{ "G", "H" }

}

};

for (int i = 0; i < 2; i++) {

for (int j = 0; j < 2; j++) {

for (int k = 0; k < 2; k++) {

cout << letters[i][j][k] << "\n";

}

}

}

**ARRAY C++ Interview Questions:**

**1.What is an array in C++?**

**2.How do you declare an array in C++?**

**3.What is the difference between an array and a pointer in C++?**

**4.What is the time complexity for accessing an element in an array?**

**5.How do you find the length of an array in C++?**

**6.What is the difference between a static array and a dynamic array?**

**7.What is a multi-dimensional array? How do you declare and access elements in a multi-dimensional array?**

**8.What is the concept of an array of pointers in C++? How is it useful?**

**9.How can you find the largest and smallest elements in an array using pointers?**

**10.**

[Try it Yourself »](https://www.w3schools.com/cpp/trycpp.asp?filename=demo_array_multi_loop2)