

Pointers versus Arrays

Difference Between Arrays and Pointers in C++

The pointer can be used to access the array elements, accessing the whole array using pointer arithmetic, makes the accessing faster. The main difference between Array and Pointers is the fixed size of the memory block. When Arrays are created the fixed size of the memory block is allocated. But with Pointers the memory is dynamically allocated. There are some other differences between an array and a pointer which are discussed below in the table.

S. No.	Array	Pointer
1.	Arrays are declared as type <code>var_name[size];</code>	Pointers are declared as type <code>*var_name;</code>
2.	Collection of elements of similar data type.	Store the address of another variable.
3.	An array can decide the number of elements it can store.	The pointer can store the address of only one variable.
4.	Arrays are allocated at compile time.	Pointers are allocated at run-time.
5.	Memory allocation is in sequence.	Memory allocation is random.
6.	Arrays are static in nature i.e. they cannot be resized according to the user requirements.	Pointers are dynamic in nature i.e. memory allocated can be resized later.
7.	An array of pointers can be generated.	A pointer to an array can be generated.
8.	An array is a group of elements.	Pointer is not a group of elements.