

Pointer Arithmetic & Arrays

You can change the location where a pointer points by incrementing or decrementing it. You can also **generate new pointer** values by adding or subtracting integers from an existing pointer. The **effective address** depends upon the **base type** of the pointer.

Given 4-byte **int** and 8-byte **double**, if you add 1 to an integer address, the new address produced is 4 bytes larger than the original pointer value; if you add 1 to a **double** address, the new address is 8 bytes larger.

```
int array[] = {1, 2, 3, 4, 5};
int *p = array;      // p <- &array[0]
p = array + 1;       // p <- &array[1]
p = array + 4;       // p <- &array[4]
```

Of course, unlike a pointer, you **cannot increment or decrement** an array name.



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