Pointer Arithmetic

A limited set of arithmetic operations can be performed on pointers which are:

- incremented (++)
- decremented (—)
- an integer may be added to a pointer (+ or +=)
- an integer may be subtracted from a pointer (– or -=)
- difference between two pointers (p1-p2)

(**Note:** Pointer arithmetic is meaningless unless performed on an array.)

```
// C++ program to illustrate Pointer Arithmetic
#include <bits/stdc++.h>
using namespace std;
void geeks()
{
    // Declare an array
    int v[3] = { 10, 100, 200 };

    // declare pointer variable
    int* ptr;

    // Assign the address of v[0] to ptr
    ptr = v;

    for (int i = 0; i < 3; i++) {
        cout << "Value at ptr = " << ptr << "\n";
        cout << "Value at *ptr = " << *ptr << "\n";

        // Increment pointer ptr by 1
        ptr++;
    }
}
```

```
// Driver program
int main() { geeks(); }
```

Output

```
Value at ptr = 0x7ffe58fe1390
Value at *ptr = 10
Value at ptr = 0x7ffe58fe1394
Value at *ptr = 100
Value at ptr = 0x7ffe58fe1398
Value at *ptr = 200
```