std::atoi, std::atol, std::atoll

int atoi(const char *str);		
long atol(const char *str);		
long long atoll(const char *str);	(since C++11)	

Interprets an integer value in a byte string pointed to by str.

Discards any whitespace characters until the first non-whitespace character is found, then takes as many characters as possible to form a valid integer number representation and converts them to an integer value. The valid integer value consists of the following parts:

- (optional) plus or minus sign
- numeric digits

Parameters

str – pointer to the null-terminated byte string to be interpreted

Return value

Integer value corresponding to the contents of str on success.

If no conversion can be performed, 0 is returned.

If the value of the result cannot be represented, i.e. the converted value falls out of range of the corresponding return type, behavior is undefined.

Example

Run this code

```cpp
#include <cstdlib>
#include <iostream>

int main()
{
    const auto data = {
        "42",
        "3.14159",
        "31337 with words",
        "words and 2",
        "-012345",
        "10000000000"
    };

    for (const char* s : data) {
        const int i {std::atoi(s)};
        std::cout << "std::atoi('" << s << "') is " << i << '\n';
        if (const long long ll {std::atoll(s)}; i != ll) {
            std::cout << "std::atoll('" << s << "') is " << ll << '\n';
        }
    }
}
```

Possible output:

```
std::atoi('42') is 42
std::atoi('3.14159') is 3
std::atoi('31337 with words') is 31337
std::atoi('words and 2') is 0
std::atoi('-012345') is -12345
std::atoi('10000000000') is 1410065408
std::atoll('10000000000') is 10000000000
```

See also

stoi (C++11) **stol** (C++11) **stoll** (C++11)	converts a string to a signed integer (function)
stoul (C++11) **stoull** (C++11)	converts a string to an unsigned integer (function)
strtol **strtoll** (C++11)	converts a byte string to an integer value (function)
strtoul **strtoull** (C++11)	converts a byte string to an unsigned integer value (function)
strtoimax (C++11) **strtoumax** (C++11)	converts a byte string to std::intmax_t or std::uintmax_t (function)
from_chars (C++17)	converts a character sequence to an integer or floating-point value (function)

C documentation for **atoi, atol, atoll**