**This scanner sample was pulled from:** <https://visualstudiomagazine.com/articles/2014/06/01/compiler-basics-part-2.aspx>

**with minor variations of my own.**

**Assuming the following input:**

*1 + 3 \* 4 / (4 + 5)*

**And given the following scanner:**

*for (;;)*

*{*

*Token const token = scanner.Read();*

*if (token == Token::Invalid)*

*{*

*printf("Invalid\n");*

*break;*

*}*

*else if (token == Token::EndOfFile)*

*{*

*printf("End of file\n");*

*break;*

*}*

*else if (token == Token::Number)*

*{*

*printf("%.2f\n", scanner.GetNumber());*

*}*

*else if (token == Token::Add)*

*{*

*printf("+\n");*

*}*

*else if (token == Token::Subtract)*

*{*

*printf("-\n");*

*}*

*// And so on ...*

*}*

**Where the scanner class keeps track of the following constants and variables:**

*char const \* const m\_end = nullptr;*

*char const \* m\_next = nullptr;*

*float m\_number = 0.0f;*

*char const c = \*m\_next;*

**Where the tokens are handled like so:**

* **Mathematical operations:**

*if ('+' == c)*

*{*

*++m\_next;*

*return Token::Add;*

*}*

* **The end of files:**

*if (m\_next == m\_end)*

*{*

*return Token::EndOfFile;*

*}*

* **White spaces:**

*void SkipWhitespace() throw()*

*{*

*while (m\_next != m\_end)*

*{*

*if (isspace(\*m\_next))*

*{*

*++m\_next;*

*}*

*else*

*{*

*break;*

*}*

*}*

*}*

* **Single Digits :**

*return Token::Number;*

**Then the expected output is:**

*1*

*+*

*3*

*\**

*4*

*/*

*(*

*4*

*+*

*5*

*)*

*End of file*