

The NCU Programming Language Grammar

<code><ncu-pl-program> ::=</code>	<code>"BEGIN NCUPL" <statement>* "END" <EOF></code>
<code><statement> ::=</code>	<code><output-statement></code> <code> <input-statement></code> <code> <variable-declaration></code> <code> <variable-assignment></code> <code> <if-then-statement></code>
<code><expression> ::=</code>	<code>"(" <expression> ")"</code> <code> <identifier></code> <code> <integer-literal></code> <code> <string-literal></code> <code> <boolean-literal></code> <code> <binary-expression></code>
<code><type> ::=</code>	<code>"int" "string" "bool"</code>
<code><identifier> ::=</code>	<code>({LETTER}¹ "_") +</code> <code>({LETTER} {DIGIT}² " ") *³ </code>
Literal Values	
<code><integer-literal> ::=</code>	<code>{DIGIT} +</code>
<code><string-literal> ::=</code>	<code>" " {ASCII}⁴ " "</code>
<code><boolean-literal> ::=</code>	<code>"true" "false"</code>
Expressions	
<code><binary-expression> ::=</code>	<code><expression></code> <code>("+" "-" "*" "/"</code> <code> "==" "<" ">")</code> <code><expression></code>
Statements	
<code><variable-declaration> ::=</code>	<code><type> <identifier> ";"</code>
<code><input-statement> ::=</code>	<code>"INPUT" <expression> <identifier>⁵ ";"</code>
<code><output-statement> ::=</code>	<code>"OUTPUT" <expression> ";"</code>
<code><variable-assignment> ::=</code>	<code><identifier> "=" <expression> ";"</code>
<code><if-then-statement> ::=</code>	<code>"IF" <expression> "THEN" <statement></code>
Comments	
<code><comment> ::=</code>	<code>"#" {ASCII} "\n"⁶</code>

¹ {LETTER} is a placeholder for any character in the range "a" through "z" or "A" through "Z"

² {DIGIT} is a placeholder for any digit in the range "0" through "9"

³ Identifier names in NCU/PL follow the same rules as the C family of languages: at least one ASCII character or underscore, followed by zero or more ASCII characters, underscores, or numbers.

⁴ {ASCII} is a placeholder for any character in the American Standard Code for Information Interchange

⁵ <expression> represents the prompt for the input, usually a string literal.

⁶ Only single-line comments beginning with the pound sign are recognized by NCUPL.