

The Alphabet for any given programming language

That has every character and number:

$$\Sigma = \{0, 1, 2, \dots, 9\} \cup \{a, b, c, \dots, z\} \cup \{A, B, C, \dots, Z\} \cup \{+, -\}$$

The RE for integer:

Regular Expression:

$$[0 \cup [1-9][0-9]^*$$

The RE for floating integer:

Regular Expression:

$$([0 \cup [1-9][0-9]^*) ([0-9]^* \cup \epsilon)$$

To make the dot (.) optional.

The RE for identifier:

$$([- \cup [a-z])([a-z] \cup [0-9] \cup -)^*$$

The RE for strings:

$$"(\ ^{x})^{*}"$$

where $\wedge x = \Sigma^* - \Sigma x$

(complement).

The RE for new line:

$$"(\ (^{x} \cup \backslash n))^{*}"$$

The RE for keywords:

if \cup else \cup for \cup while \cup function \cup int

The Relation Operation:

$$(== \cup != \cup <= \cup >= \cup < \cup >)$$

Operator

$$([1-9][1-9]^*) \cup \backslash * \cup \% \cup \&\& \cup \backslash \cup ! \cup ^ \cup \&$$