

## Alphabet:

- upper (A-Z) and lower case letters (a-z) of the English alphabet
- decimal digits (0-9)

### a. Special symbols:

- operators: + - \* / = == != ! > < >= <= % ++ -- ^
- separators: () [] {} ; :
- res. words: if else while number string let const read print true false for

### b. Identifiers:

- a sequence of letters and digits, such that the first character is a letter

$\langle id \rangle ::= \langle letter \rangle \mid \langle letter \rangle \langle seq\_let\_digit \rangle$

$\langle seq\_let\_digit \rangle ::= \langle letter \rangle \langle seq\_let\_digit \rangle \mid \langle digit \rangle \langle seq\_let\_digit \rangle$

$\langle letter \rangle ::= a \mid b \mid \dots \mid z \mid A \mid B \mid \dots \mid Z$

$\langle digit \rangle ::= 0 \mid 1 \mid \dots \mid 9$

$\langle nozero\_digit \rangle ::= 1 \mid \dots \mid 9$

### c. Constants:

#### 1. number

$\langle number \rangle ::= 0 \mid (-|+) \langle poz\_number \rangle$

$\langle all\_digits \rangle ::= \langle digit \rangle \mid \langle digit \rangle \langle all\_digits \rangle // 0122, 4201, 0$

$\langle poz\_number \rangle ::= \langle nozero\_digit \rangle \mid \langle nozero\_digit \rangle \langle all\_digits \rangle$

#### 2. string

$\langle string \rangle ::= ' \langle letter \rangle \mid \langle digit \rangle \mid \langle letter \rangle \langle string \rangle \mid \langle digit \rangle \langle string \rangle '$

#### 3. bool - $\langle bool \rangle ::= true \mid false$