- if we want to define an unsigned integer constant
- Could you give a new definition of the grammar?
- **G[uint]**
- unit → digit_s
- digit_s → digit_s d | d
- d →0 | 1 | 2 | 3 | …… | 9
- You must change this grammar to constraint it.

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- The name of file: student_id-name-ex01 (file: jpg, word)

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Solution:

digit → 0 | 1 | 2| 3 | ……. | 9

digits → digit digit* | digit

optionalFraction →. digits | ε

optionalExponent → (E (+ | - | ε) digits) | ε

number → digits optionalFraction optionalExponent

This is a precise specification for this set of strings. That is, an optionalFraction is either a decimal point (dot) followed by one or more digits, or it is missing (the empty string). An optionalExponent, if not missing, is the letter E followed by an optional + or - sign, followed by one or more digits. Note that at least one digit must follow the dot, so number does not match 1.,but does match 1.0

Reference:

https://youtu.be/NMcr6hH7AvY

(1) 5280 legal?

number → digits optionalFraction optionalExponent

→ digit digit* ε ε

→ 5280   [ε is ignored]

(2) 0 legal?

number → digits optionalFraction optionalExponent

       → digit ε ε

       → 0

(3) 001 legal?

number → digits optionalFraction optionalExponent

       → digit digit* ε ε

       → 0 digit*

       →010

(4) 0.01234

number → digits optionalFraction optionalExponent

       → digit . digits ε

       → 0.01234

(5) 1000

number → digits optionalFraction optionalExponent

       → digit digit* ε ε

       → 1 digit*

       → 1000