

# GastroGnome Grammar

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$\langle \text{program} \rangle ::= \langle \text{program-decl} \rangle^*$

$\langle \text{program-decl} \rangle ::= \langle \text{ingredient-decl} \rangle \mid \langle \text{default-quantity-decl} \rangle \mid \langle \text{action-decl} \rangle \mid \langle \text{unit-decl} \rangle$

$\langle \text{ingredient-decl} \rangle ::= \langle \text{upper} \rangle \text{: NEWLINE INDENT } \langle \text{ingredient-exp} \rangle \text{ DEDENT}$

$\langle \text{ingredient-exp} \rangle ::= \langle \text{ingredient-quantity} \rangle \mid \langle \text{ingredient-name} \rangle \mid \langle \text{ingredient-action} \rangle$

$\langle \text{ingredient-quantity} \rangle ::= \langle \text{quantity} \rangle \langle \text{ingredient-lit} \rangle$

$\langle \text{ingredient-name} \rangle ::= \langle \text{ingredient-lit} \rangle$

$\langle \text{ingredient-action} \rangle ::= \langle \text{action} \rangle \text{ NEWLINE INDENT } \langle \text{ingredient-exp} \rangle^+ \text{ DEDENT}$

$\langle \text{ingredient-lit} \rangle ::= \langle \text{upper} \rangle$

$\langle \text{default-quantity-decl} \rangle ::= \langle \text{quantity} \rangle \langle \text{ingredient-lit} \rangle$

$\langle \text{quantity} \rangle ::= \langle \text{count} \rangle \mid \langle \text{amount} \rangle$

$\langle \text{count} \rangle ::= \langle \text{natural} \rangle / \langle \text{natural} \rangle$

$\langle \text{amount} \rangle ::= \langle \text{count} \rangle \langle \text{unit} \rangle$

$\langle \text{action} \rangle ::= \langle \text{upper} \rangle ( \langle \text{lower} \rangle " ( \langle \text{lower} \rangle ) + "$

$\langle \text{action-decl} \rangle ::= \langle \text{all-upper} \rangle = \langle \text{action} \rangle$

$\langle \text{unit} \rangle ::= \langle \text{lower} \rangle$

$\langle \text{unit-decl} \rangle ::= \langle \text{count} \rangle \langle \text{lower} \rangle = \langle \text{count} \rangle \langle \text{unit} \rangle$

$\langle \text{all-upper} \rangle ::= [\text{A-Z}][\text{A-Z}]^+$

$\langle \text{upper} \rangle ::= [\text{A-Z}][\text{a-z}]^+$

$\langle \text{lower} \rangle ::= [\text{a-z}][\text{a-z}]^+$

$\langle \text{natural} \rangle ::= [1-9][0-9]^*$