Grammar :

<S> ::= <subject> <to-be> <verb> <object>

<subject> / <Z> ::= They | He | She

<to-be> / <H> ::= Is | Are

<verb> / <V> ::= Eating | Playing | Buying | Hunting | Learning

<object> / <O>::= Grapes | Games | Seeds | Lunch | Science

Simbol non-terminal: S (starting symbol), Z, H, V, O

Simbol terminal : They, He, She, Is, Are, Eating, Playing, Buying, Hunting, Learning, Grapes, Games, Seeds, Lunch, Science, Rabbits

Finite automata untuk lexical analyzer kata/token/simbol terminal sesuai grammar :

Shape

Description automatically generated with low confidence

Rancangan parse-table LL (1) sesuai Grammar yang sudah didefinisikan:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | They | He | She | Is | Are | Eating | Playing | Buying | Hunting | EOS |
| S | Z,H,V,O | Z,H,V,O | Z,H,V,O | error | error | error | error | error | error | error |
| Z | They | He | She | error | error | error | error | error | error | error |
| H | error | error | error | Is | Are | error | error | error | error | error |
| V | error | error | error | error | error | Eating | Playing | Buying | Hunting | error |
| O | error | error | error | error | error | error | error | error | error | error |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Learning | Grapes | Games | Seeds | Lunch | Rabbits | EOS |
| S | error | Z,H,V,O | Z,H,V,O | Z,H,V,O | Z,H,V,O | Z,H,V,O | error |
| Z | error | error | error | error | error | error | error |
| H | error | error | error | error | error | error | error |
| V | Learning | error | error | error | error | error | error |
| O | error | Grapes | Games | Seeds | Lunch | Rabbits | error |

Test cases:

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

Shape, rectangle

Description automatically generated

// Error pada lexicon karena typo pada “aeting”, seharusnya “eating” //

Shape, rectangle

Description automatically generated

// Error pada lexicon karena typo pada “rae”, seharusnya “are” //

Shape, rectangle

Description automatically generated

// Error pada lexicon karena typo pada”sceince”, seharusnya “science” //

Shape, rectangle

Description automatically generated

// Error pada parser karena urutan kata tidak sesuai grammar //

Shape, rectangle

Description automatically generated

// Error pada parser karena urutan kata tidak sesuai grammar //

Shape, rectangle

Description automatically generated

// Error pada parser karena urutan kata tidak sesuai grammar //