S → D E eof

D → B id '=' num ';' D | ε

B → 'bin' | 'oct' | 'hex'

E → T E'

E' → '+' T E' | '-' T E' | ε

T → F T'

T' → '*' F T' | '/' F T' | ε

F → id | num | '(' E ')'

FIRST(S) = {'bin', 'oct', 'hex', id, num, '(', eof}
FIRST(D) = {'bin', 'oct', 'hex', ε}
FIRST(B) = {'bin', 'oct', 'hex'}
FIRST(E) = {id, num, '('}
FIRST(T) = {id, num, '('}
FIRST(F) = {id, num, '('}
FIRST(E') = {'+', '-', ε}
FIRST(T') = {'*', '/', ε}

FOLLOW(S) = {eof}
FOLLOW(D) = {id, num, '(', eof}
FOLLOW(B) = {id}
FOLLOW(E) = {eof, ')'}
FOLLOW(E') = {eof, ')'}
FOLLOW(T) = {'+', '-', ')', eof}
FOLLOW(T') = {'+', '-', ')', eof}
FOLLOW(F) = {'*', '/', '+', '-', ')', eof}

| | 'bin' | 'oct' | 'hex' | id | num | '(' | ')' | '+' | '-' | '*' | '/' | eof |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | S → D E eof | S → D E eof | S → D E eof | S → D E eof | S → D E eof | S → D E eof | | | | | | S → D E eof |
| D | D → B id '=' num ';' D | D → B id '=' num ';' D | D → B id '=' num ';' D | D → ε | D → ε | D → ε | | | | | | D → ε |
| B | B → 'bin' | B → 'oct' | B → 'hex' | | | | | | | | | |
| E | | | | E → T E' | E → T E' | E → T E' | | | | | | |
| E' | | | | | | | E' → ε | E' → '+' T E' | E' → '-' T E' | | | E' → ε |
| T | | | | T → F T' | T → F T' | T → F T' | | | | | | |
| T' | | | | | | | T' → ε | T' → ε | T' → ε | T' → '*' F T' | T' → '/' F T' | T' → ε |
| F | | | | F → id | F → num | F → '(' E ')' | | | | | | |

EJEMPLOS:

| STACK | INPUT | ACTIONS |
|---|---|---|
| S | bin id = 01011; | Reduce S → D E eof |
| D E eof | bin id = 01011; | Reduce D → B id '=' num ';' D |
| B id '=' num ';' D E eof | bin id = 01011; | Reduce B → 'bin' |
| 'bin' id '=' num ';' D E eof | bin id = 01011; | Accept 'bin' id '=' num ';' |
| D E eof | eof | Reduce D → ε |
| E eof | | |

| STACK | INPUT | ACTIONS |
|---|---|---|
| S | (1010 + 111) – 11 | Reduce S → D E eof |
| D E eof | (1010 + 111) – 11 | Reduce D → ε |
| E eof | (1010 + 111) – 11 | Reduce E → T E' |
| T E' eof | (1010 + 111) – 11 | Reduce T → F T' |
| F T' E' eof | (1010 + 111) – 11 | Reduce F → '(' E ')' |
| '(' E ')' T' E' eof | (1010 + 111) – 11 | Accept ( and ( |
| E ')' T' E' eof | 1010 + 111) – 11 | Reduce E → T E' |
| T E' ')' T' E' eof | 1010 + 111) – 11 | Reduce T → F T' |
| F T' E' ')' T' E' eof | 1010 + 111) – 11 | Reduce F → num |
| num T' E' ')' T' E' eof | 1010 + 111) – 11 | Accept num and 1010 |
| T' E' ')' T' E' eof | + 111) – 11 | T' → ε |
| E' ')' T' E' eof | + 111) – 11 | Reduce E' → '+' T E' |
| '+' T E' ')' T' E' eof | + 111) – 11 | Accept + and + |
| T E' ')' T' E' eof | 111) – 11 | Reduce T → F T' |
| F T' E' ')' T' E' eof | 111) – 11 | Reduce F → num |
| num T' E' ')' T' E' eof | 111) – 11 | Accept num and 111 |
| T' E' ')' T' E' eof | ) – 11 | Reduce T' → ε |
| E' ')' T' E' eof | ) – 11 | Reduce E' → ε |
| ')' T' E' eof | ) – 11 | Accept ) and ) |
| T' E' eof | – 11 | Reduce T' → ε |
| E' eof | – 11 | Reduce E' → '-' T E' |
| '-' T E' eof | – 11 | Accept - and - |
| T E' eof | 11 | Reduce T → F T' |
| F T' E' eof | 11 | Reduce F → num |
| num T' E' eof | 11 | Accept num and 11 |
| T' E' eof | eof | Reduce T' → ε |
| E' eof | eof | Reduce E' → ε |
| eof | eof | Accept eof and eof |