CS 631-02 Parsing

Lab01 Solution

"0b+"

"0b12" ✗
"0b1̲2̲" OK

TK_BINLIT(1) TK_INTLIT (2)

"0b1101⌞⌟   " 0b̲ 0̲1̲0̲1̲1̲1̲ "

1011   bb1̲0̲1̲0̲⌞1̲0̲⌟

⅕

Arue

"0b10101̲0̲1̲0̲" + 2

"0b1010̄11" + 7

int x = 0b1010 + 0xFA + 22
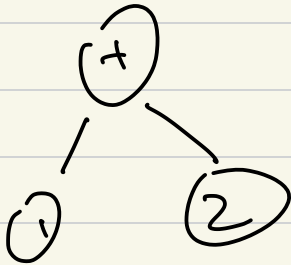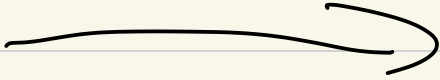
scanning
↓
tokens
↓
parsing
↓
tree
/   \
eval   codegen
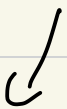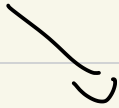
" 1 + 2 "

| TK_INT("1") | TK_PLUS("+") | TK_INT("2") |

$\longrightarrow$

```
      (+)
      /  \
    (1)  (2)
```

" (1+2) + 3 "

```
         (+)
        /   \
      (+)    (3)
      /  \
    (1)  (2)
```

" 1 + (2+3) "
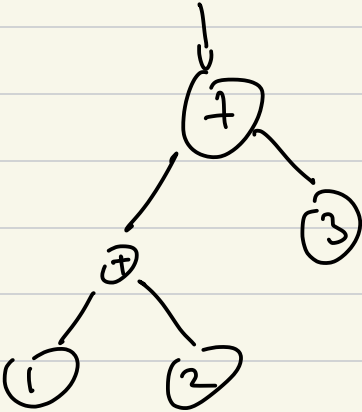
```
     (+)
    /    \
  (1)    (+)
         /  \
       (2)  (3)
```
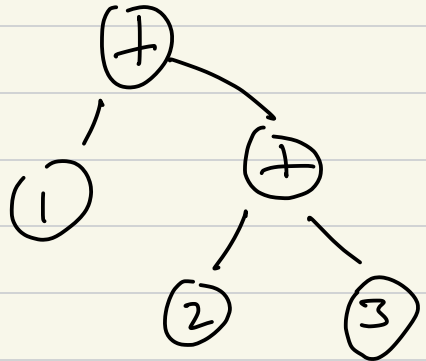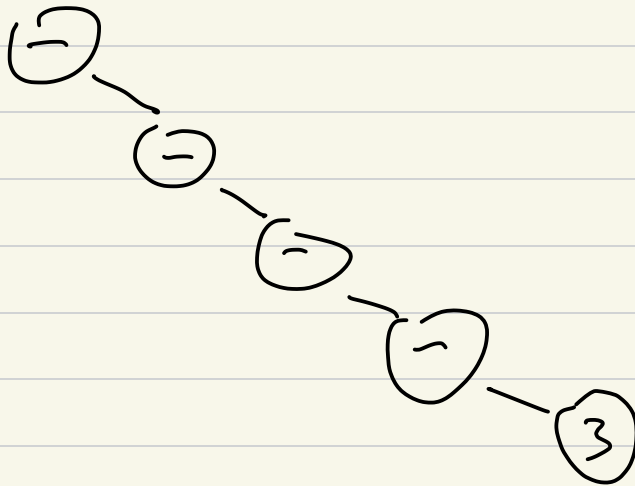
" 1 + 2 + 3 "

$- 3$

$1 - 2$

$(1)\theta - 2$

$(1)\theta\underline{- - - 2}$

$1 + + 2$
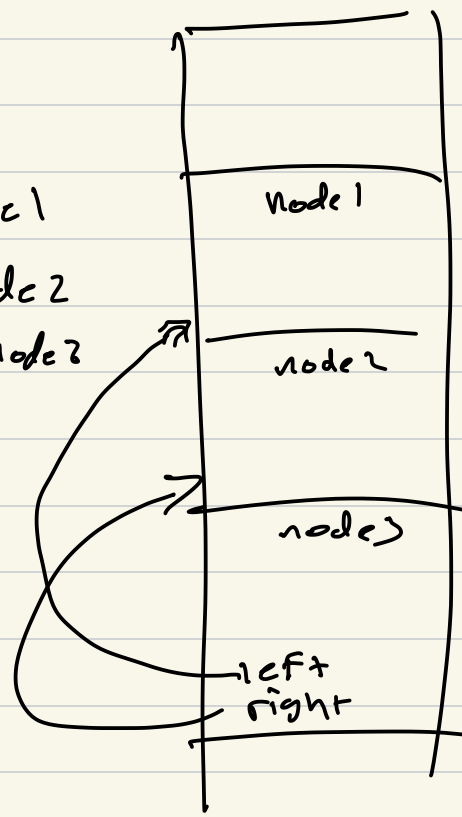
stack

main ()

Struct parse_node_st node1
Struct parse_node_st node2
struct parse_node_st node3

| node1 |
| node2 |
| node3 |
| left right |

"22"

"2+3"

np2

$(+)$

np1 ⇒ (2)   (3)

np1 = np2

"1 + 2 + 3"

⟶

apl⟲

$(+)$ — $(+)$
  / \   \
 ①   ②   ③
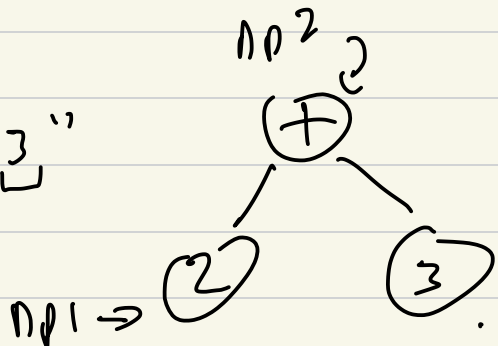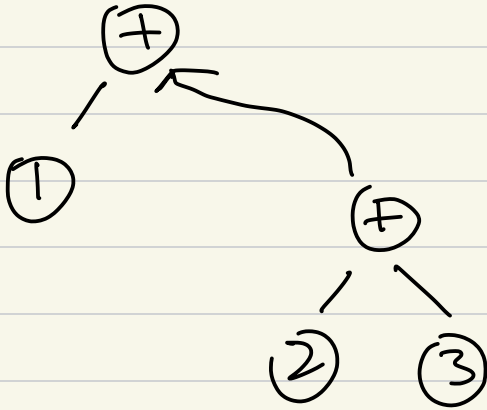
"_ - 3"
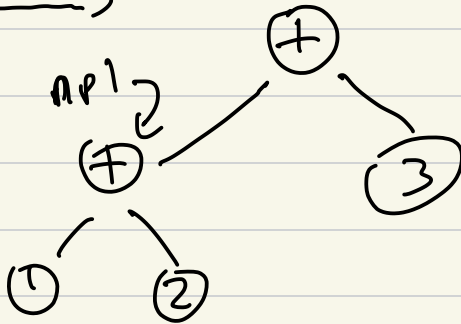
$(-)$
 |
 ③
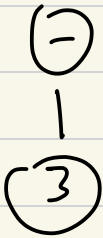
$7 + (4 * 2)$

$1 + 2 + 3$

$(1 + 2) + 3$

①$+ (2 + 3)$ parse_operand

parse_expression()

np =

$2 + (3 + 4 + 5)$

if "(" {

np = parse_expression()

accept (")")