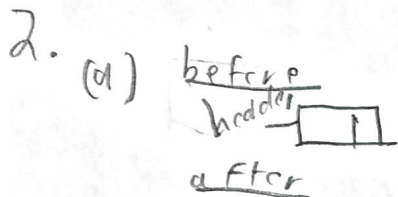Aiden Collins hw05 - Written
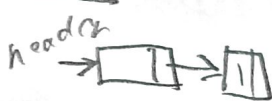April 7 2015

Question 1

header

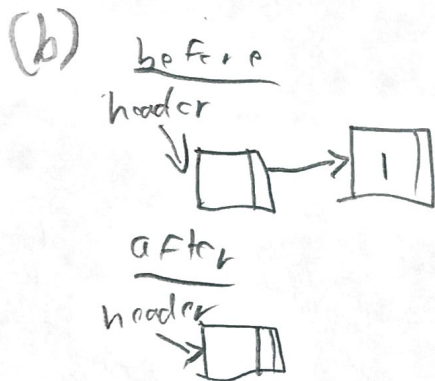

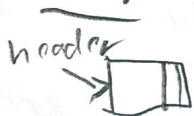2. (a) before
header

after

header

pseudo code
-set header → next to the new node
-then set new node → next
: to the old header → next

(b) before

header

after

header

pseudo code
-make a tempary variable to hold header → ne
-make header → next equal to
header → next → n
-delete the temporary variable

(c) before erase after (itr to 1)

header

after

header →
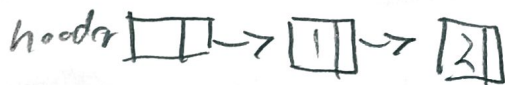
Pseudo code
-make a temp variable for node
    after one given
-set the given node → next to
    given node → next → next
-delete the temp variable

3. (a) is valid

(b) is invalid
 -linked list's iterators only have forward capabilities
 and cannot be subtracted
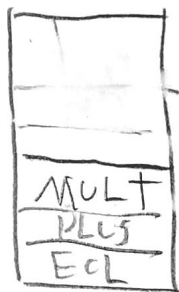
(c) is valid

4. enum TokenType {EOL, VALUE, OPAREN, CPAREN, EXP,
                      MULT, DIV, MOD, PLUS, MINUS },

    struct Precedence
    {
        int inputSymbol;
        int topOfStack;
    } PREC_TABLE [] =
    {
        {0, -1), {0, 0},
        {100, 0}, {0, 99},
        {6,5}, {3,4},
        {3,4}, {3,4},
        {1,2}, {1,2}
    };

5.

```
                    output
┌──────────┐        ─────
│          │        EXP
│          │        E+P
│          │        DIV
│  MULT    │
│  PLUS    │
│  ECL     │
└──────────┘
   opStack
```

6. it wouldn't work. old node is deleted before
   p->next is assigned to p->next->next
   so p->next would not exist at this line
   causing a segmentation fault.

7. (a)
$$8 \quad \overset{4}{8} \quad \overset{\overset{2}{4}}{8} \quad \overset{2}{8} \quad \overset{\overset{3}{2}}{8} \quad \overset{\overset{\overset{3}{3}}{2}}{8} \quad \overset{27}{8} \quad \overset{-25}{8} \quad -17$$

(b)
$$2 \quad \overset{4}{2} \quad \overset{2}{16} \quad \overset{\overset{6}{2}}{16} \quad \overset{12}{16} \quad 4$$

(c)
$$4 \quad \overset{2}{4} \quad \overset{\overset{3}{2}}{4} \quad \overset{6}{4} \quad \overset{3}{-2} \quad \overset{\overset{2}{3}}{-2} \quad \overset{9}{-2} \quad -11 \quad \overset{6}{-1} \quad -5$$

(d)
$$9 \quad \overset{3}{9} \quad 3 \quad \overset{2}{3} \quad 6 \quad \overset{1}{6} \quad 5$$

(e)
$$2 \quad 2 \quad .4 \quad \overset{5}{.4} \quad \overset{8}{.4} \quad 8.4 \quad \overset{7}{8.4} \quad 58.8 \quad \overset{4}{58.8} \quad 62.8$$

8.

(a)

52-3/33^+

(b)
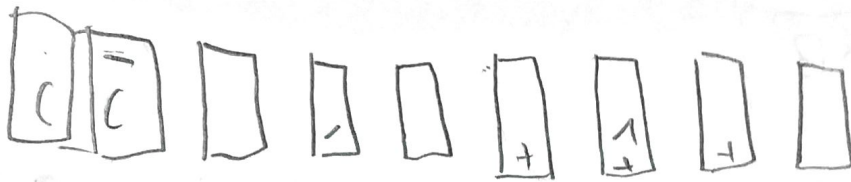
26 23 1 2 1 +1

(c)

2 3 2 8 + 1 1

(d)

26+3/32 4+7#2#-

(e)

32*4/5#