Les 1 huiswerk

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1 Opgave 1

a. **stack:**

$[2]$

$[2, 7]$

$[2, 7, 0]$

$[2, 7, 0, 4]$

$[2, 7, 0]$

$[2, 7]$

b. **queue:**

$[2]$

$[2, 7]$

$[2, 7, 0]$

$[2, 7, 0, 4]$

$[7, 0, 4]$

$[0, 4]$

2 Opgave 2

a. **stack:**

2

$2 \rightarrow 1$

2

$2 \rightarrow 4$

$2 \rightarrow 4 \rightarrow 3$

$2 \rightarrow 4$

2

$2 \rightarrow 5$

b. **stack:**

$[\varnothing, \varnothing, \varnothing, \varnothing]$

$[2, \varnothing, \varnothing, \varnothing]$

$[2, 1, \varnothing, \varnothing]$

$[2, \varnothing, \varnothing, \varnothing]$

$[2, 4, \varnothing, \varnothing]$

$[2, 4, 3, \varnothing]$

$[2, 4, \varnothing, \varnothing]$

$[2, \varnothing, \varnothing, \varnothing]$

$[2, 5, \varnothing, \varnothing]$

c. **queue:**

2

$2 \rightarrow 1$

1

$1 \rightarrow 4$

$1 \rightarrow 4 \rightarrow 3$

$4 \rightarrow 3$

3

$3 \rightarrow 5$

d. **queue:** assuming circular implementation

$[\varnothing, \varnothing, \varnothing, \varnothing]$

$[2, \varnothing, \varnothing, \varnothing]$

$[2, 1, \varnothing, \varnothing]$

$[\varnothing, 1, \varnothing, \varnothing]$

$[\varnothing, 1, 4, \varnothing]$

$[\varnothing, 1, 4, 3]$

$[\varnothing, \varnothing, 4, 3]$

$[\varnothing, \varnothing, \varnothing, 3]$

$[5, \varnothing, \varnothing, 3]$

3   Opdracht 3

a. $7 + 4 * 3 \rightarrow 7\ 4\ 3\ *\ +$

$[7]$

$[7, 4]$

$[7, 4, 3]$

$[7, 4, 3, *]$

$[7, 12]$

$[7, 12, +]$

$[19]$

b. $4/2 + 9/3 \rightarrow 4\ 2\ /\ 9\ 3\ /\ +$

$[4]$

$[4, 2]$

$[4, 2, /]$

$[2]$

$[2, 9]$

$[2, 9, 3]$

$[2, 9, 3, /]$

$[2, 3]$

$[2, 3, +]$

$[5]$

c. $1 + 2 + 3 + 4/2 \rightarrow 1\ 2\ 3\ 4\ 2\ /\ +\ +\ +$

$[1]$

$[1, 2]$

$[1, 2, 3]$

$[1, 2, 3, 4]$

$[1, 2, 3, 4, 2]$

$[1, 2, 3, 4, 2, /]$

$[1, 2, 3, 2]$

$[1, 2, 3, 2, +]$

$[1, 2, 5]$

$[1, 2, 5, +]$

$[1, 7]$

$[1, 7, +]$

$[8]$

4 Opgave 4

Assuming $\exists!_n \in$ LinkedList for deleted item n

$?_0$: null

$?_1$: prev

$?_2$: next

$?_3$: prev

$?_4$: node

5 Opgave 5

a. last = d.prev;
    last.next = null;

b. e.next = d;
    e.prev = c;
    last.prev = e;
    c.next = e;