CSE 30 5-6-21

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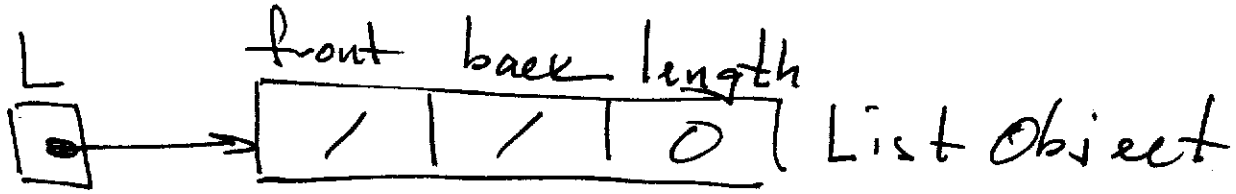
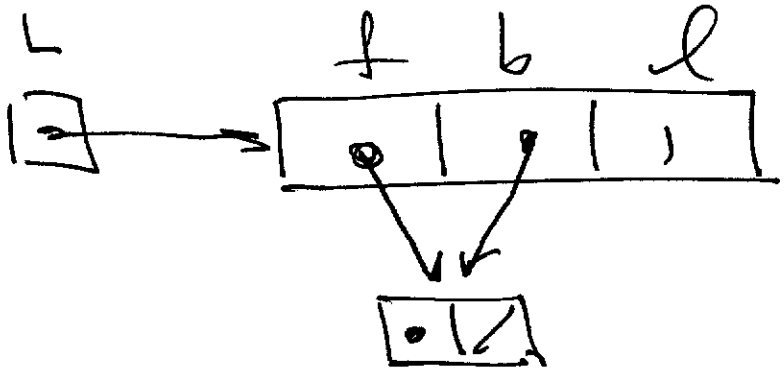
- Pa4 ext. 1 last day to Sat. 10PM

Continue... linked list data struct...

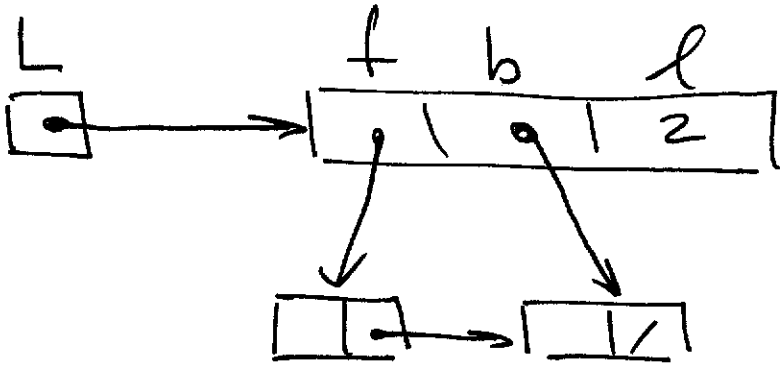
empty state



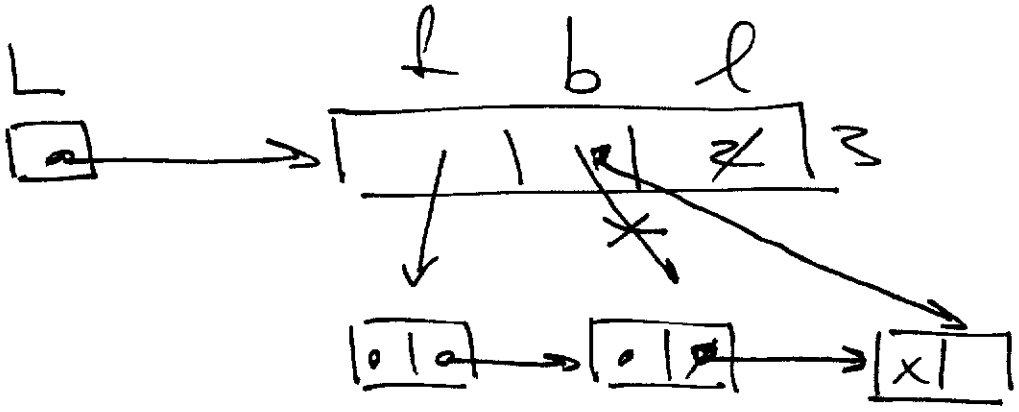

one node:



two nodes:




to add 1 node at back: append

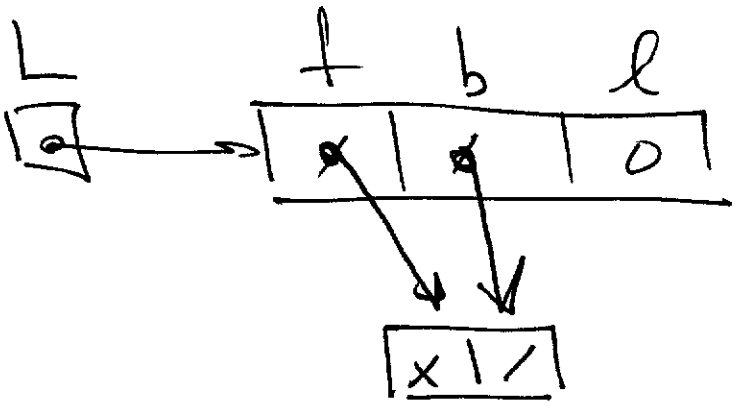



self.back.next = Node(x)

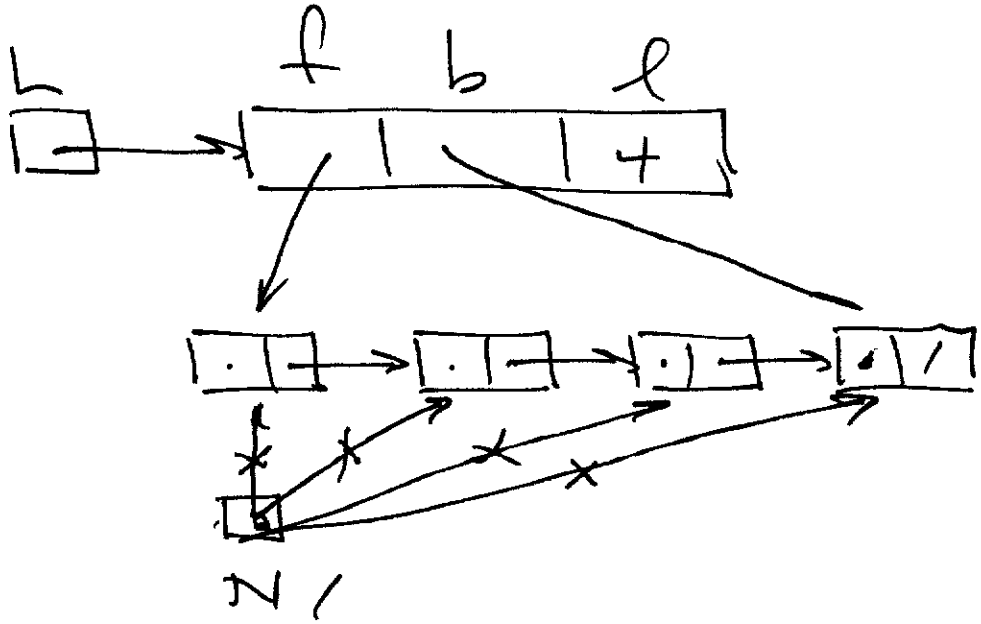
self.back = back.next

self.length += 1

special case: empty state




to walk down list: PrintL



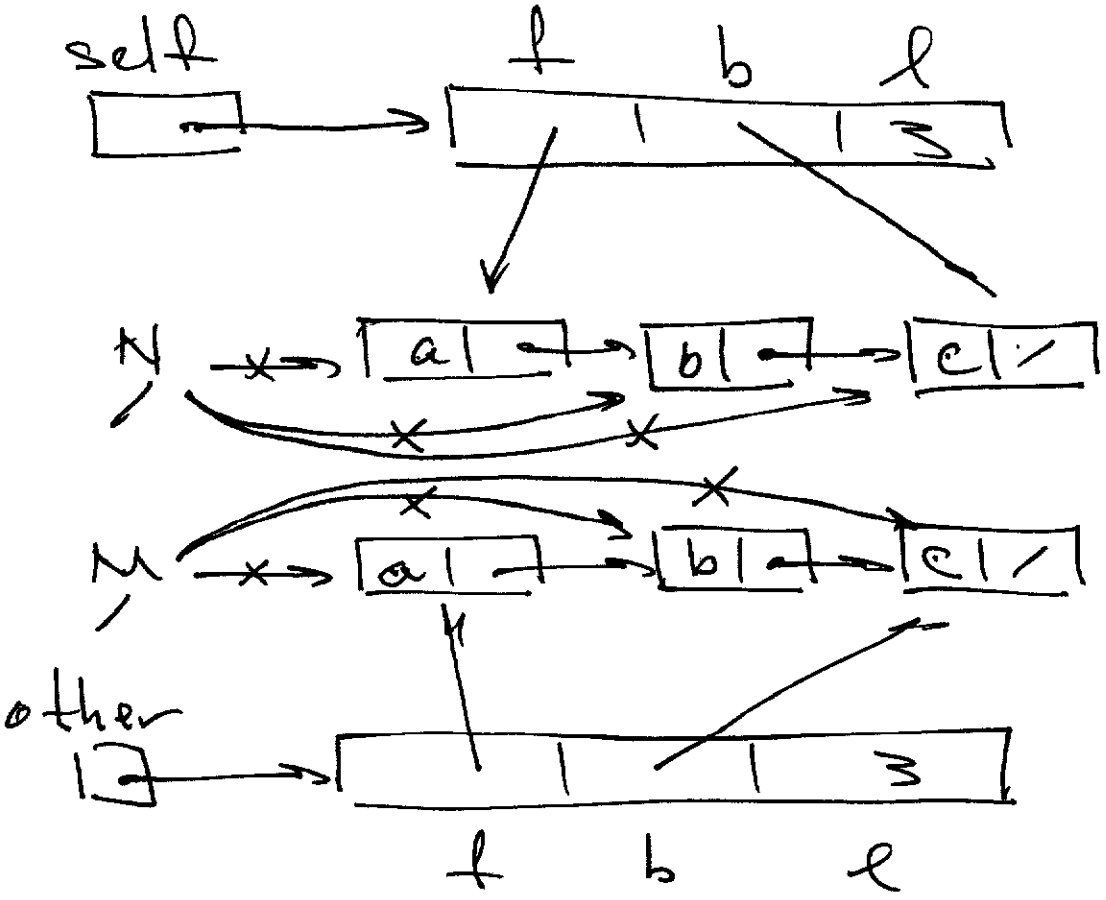

N=f.out

while N: # while N != None

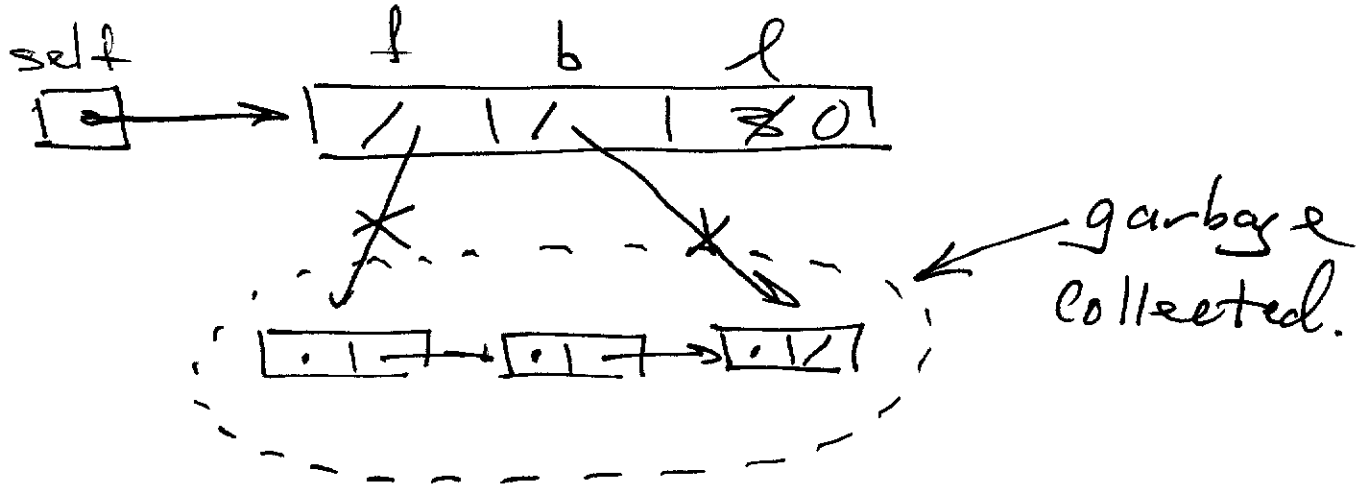
    Print(N.data)

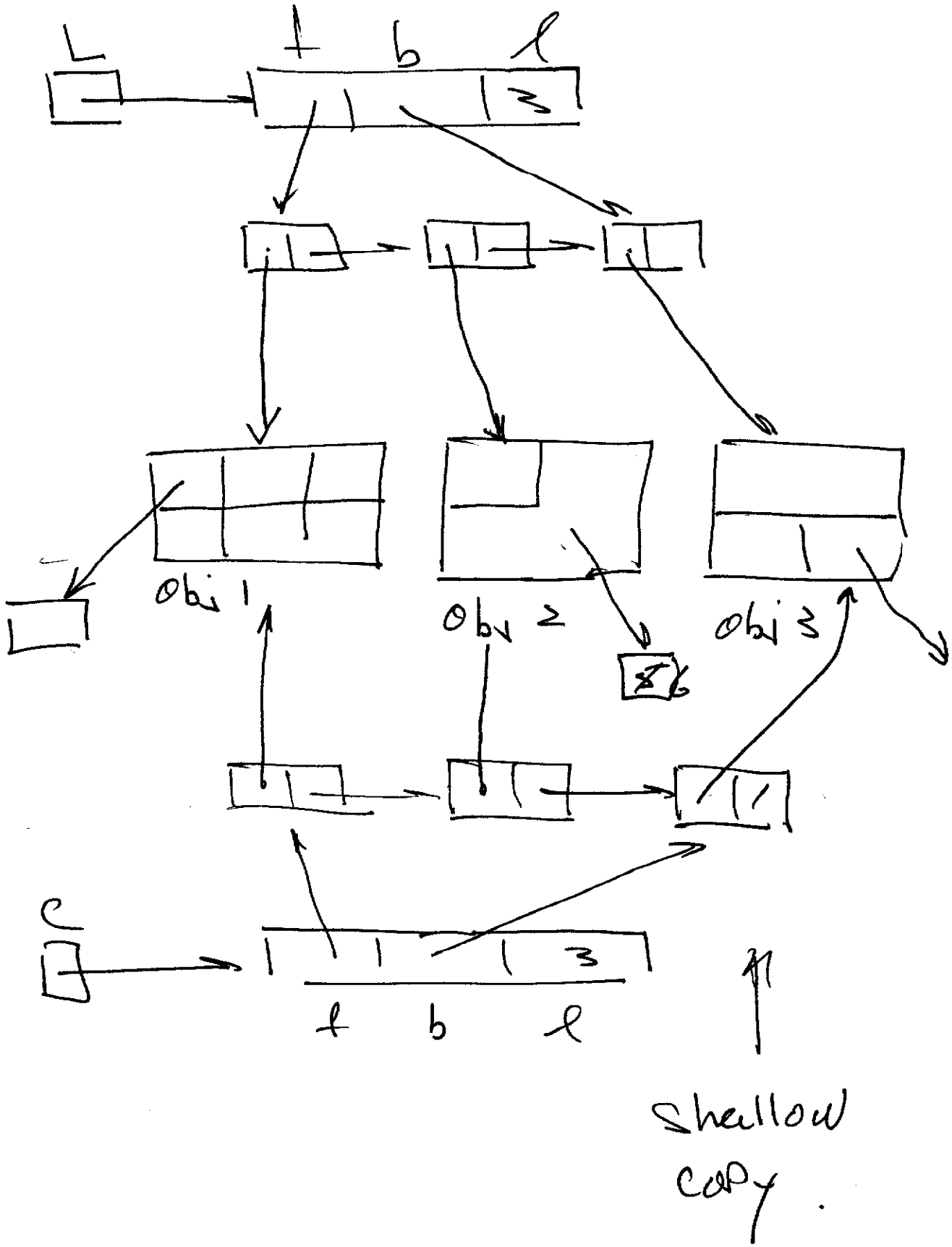
    N=N.next

__eq__(self, other):




clear(self):



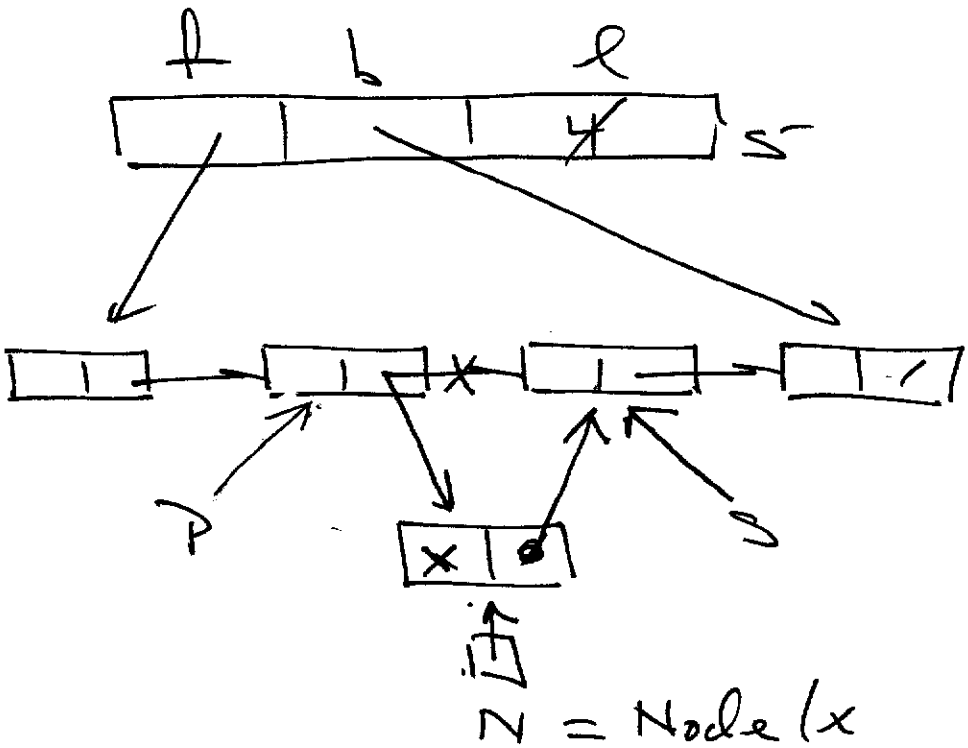

L
t
b
l
1
3
obj 1
obj 2
obj 3
x
c
1
1
3
t
b
l
shallow
copy.

hard functions:

- insert(self, i, x)
- pop(self, i=-1)

to insert : x at pos (z)

z-1 = 1

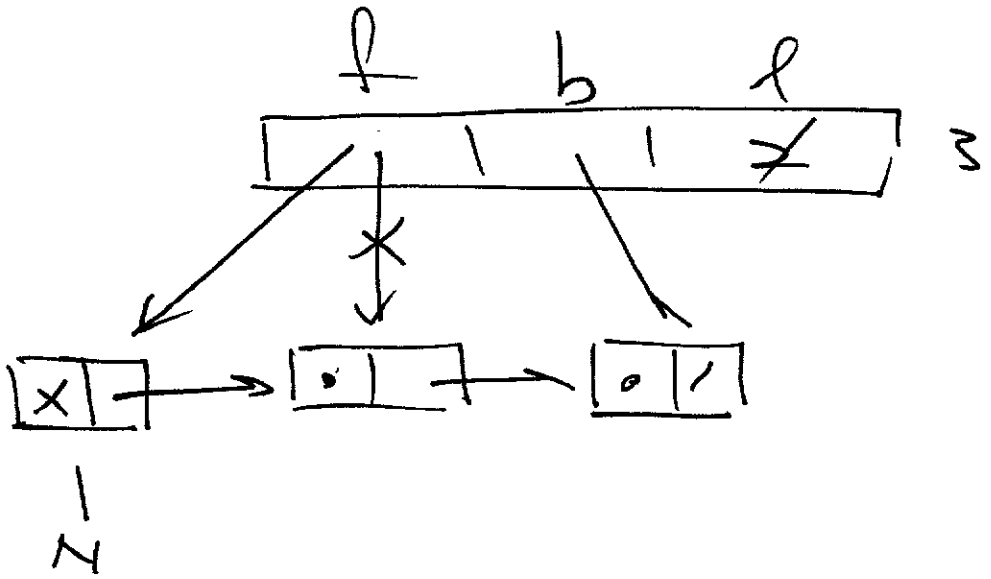



P.next = N

N.next = S

length += 1

special case: insert at front




indices: len = 3

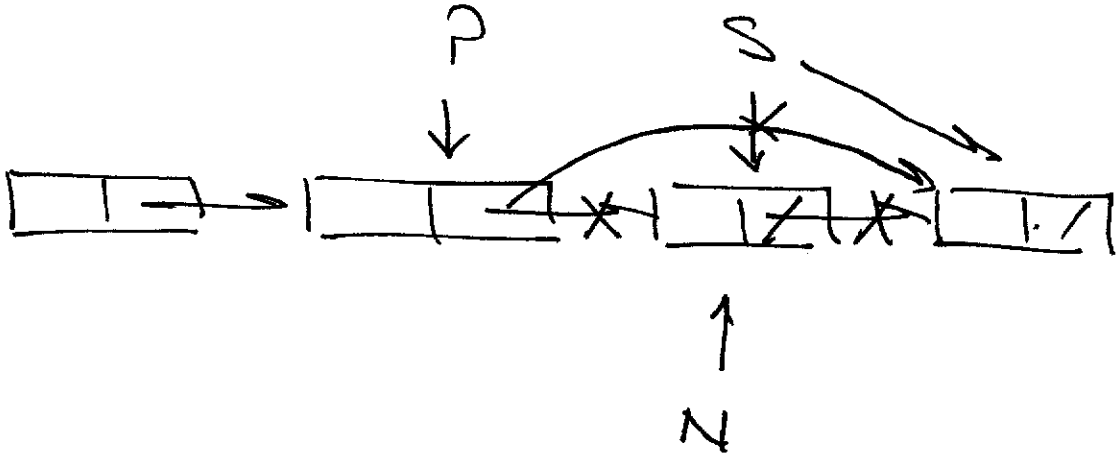
0 1 2 3

-3 -2 -1

allowed in insert: $-n \le i \le n$

To do pop(i):

General Case




Walk P, S up to node S to delete

N = S

S = N.next

P.next = S

N.next = None

Exercise: examine special cases

n = 1 and i = 0

Pay question :. CF(L)

$$[\![ x_0, x_1, \ldots, x_n ]\!] = \begin{cases} x_0 & n=0 \\ x_0 + \dfrac{1}{[\![ x_1, \ldots, x_n ]\!]} & n \geq 1 \end{cases}$$

Ex.

$$[\![ 2, 3, 5 ]\!] = 2 + \frac{1}{\left(3 + \frac{1}{5}\right)}$$

$$= 2 + \frac{1}{[\![ 3, 5 ]\!]}$$