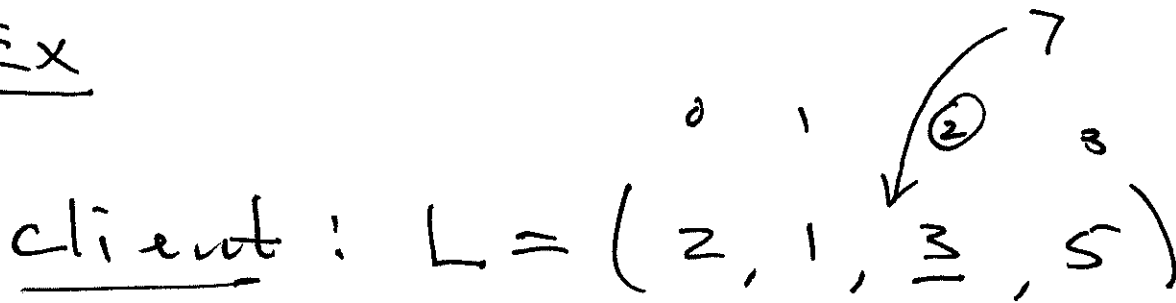


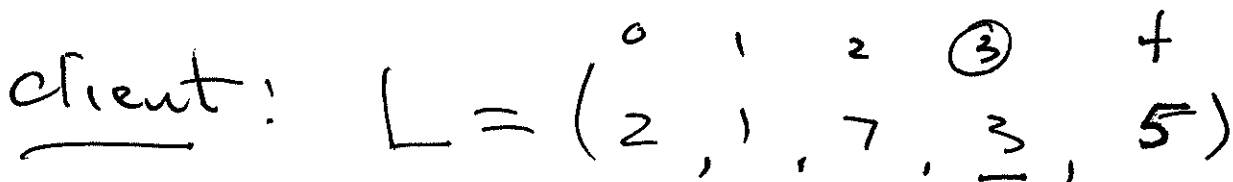
- Pal: ext. 1 day

List ADT

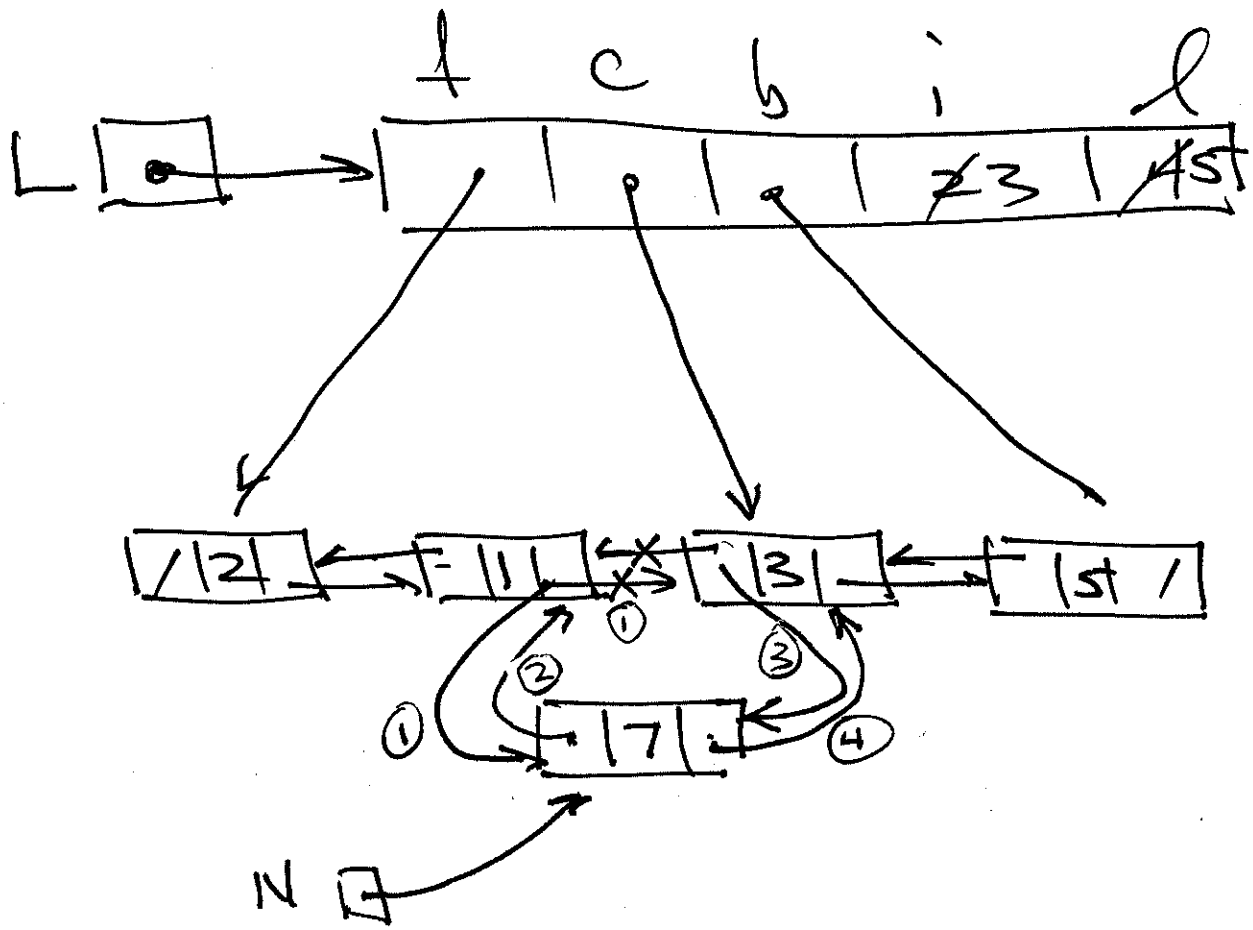
Ex



DO: insertBefore(L, 7)



# Inside Picture :

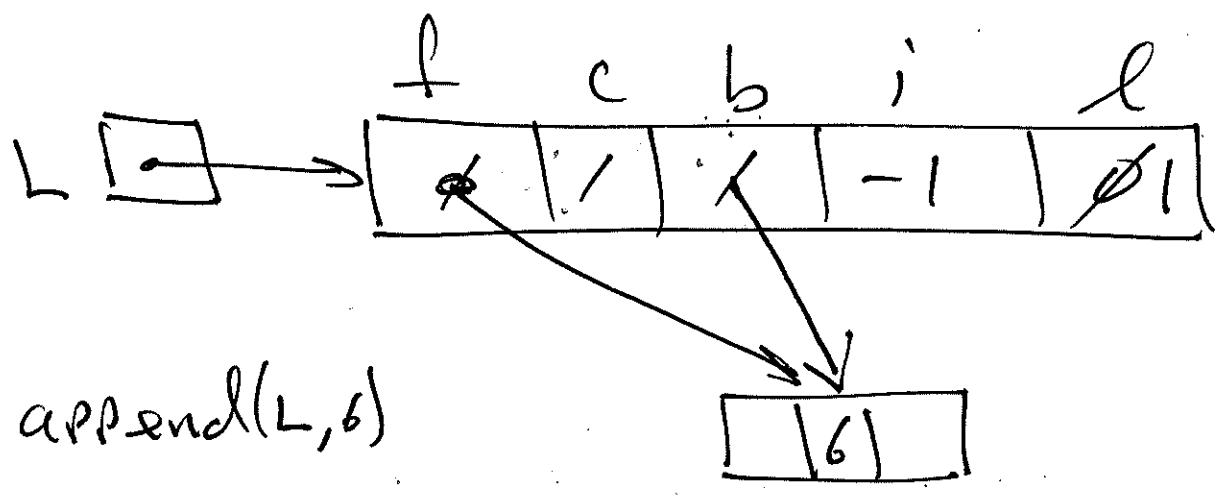


- ①  $current \rightarrow prev \rightarrow next = N$  ;
- ②  $N \rightarrow prev = current \rightarrow prev$
- ③  $current \rightarrow prev = N$  ;
- ④  $N \rightarrow next = current$  ;

Ex empty state:

client view :  $L = ()$   
append(L, 6) :  $L = (6)$

inside view:



How to build the client Lex.c?

Ex.

array of strings

$\checkmark_0$       $\checkmark_1$       $\checkmark_2$       $\checkmark_3$

$A = [ "c", "a", "b", "d" ]$

want  $L = ( 1, 2, 0, 3 )$

start:  $L = ( )$

sub  
array

[ ]

insert 0:  $L = ( 0 )$

[c]

insert 1:  $L = ( 0 )$

$L = ( 1, 0 )$

[a, c]

insert 2 :  $L = (1, \underline{0})$

$L = (1, \underline{0})$

$L = (1, 2, \underline{0})$

$[a, b, c]$

insert 3 :  $L = (1, 2, \underline{0})$

$L = (1, 2, \underline{0})$

$L = (1, 2, \underline{0})$

$L = (1, 2, 0)$

$L = (1, 2, 0, \underline{3})$

$[a, b, c, d]$

Don't use VLAs in C

Variable Length Arrays.

```
[int n;  
// get n from user
```

```
int A[n]; ← stack
```

Instead do:

```
int* A = calloc(n, sizeof(int));  
↑  
heap
```