

CS2 101 2-20-26

11

Supplemental Lecture

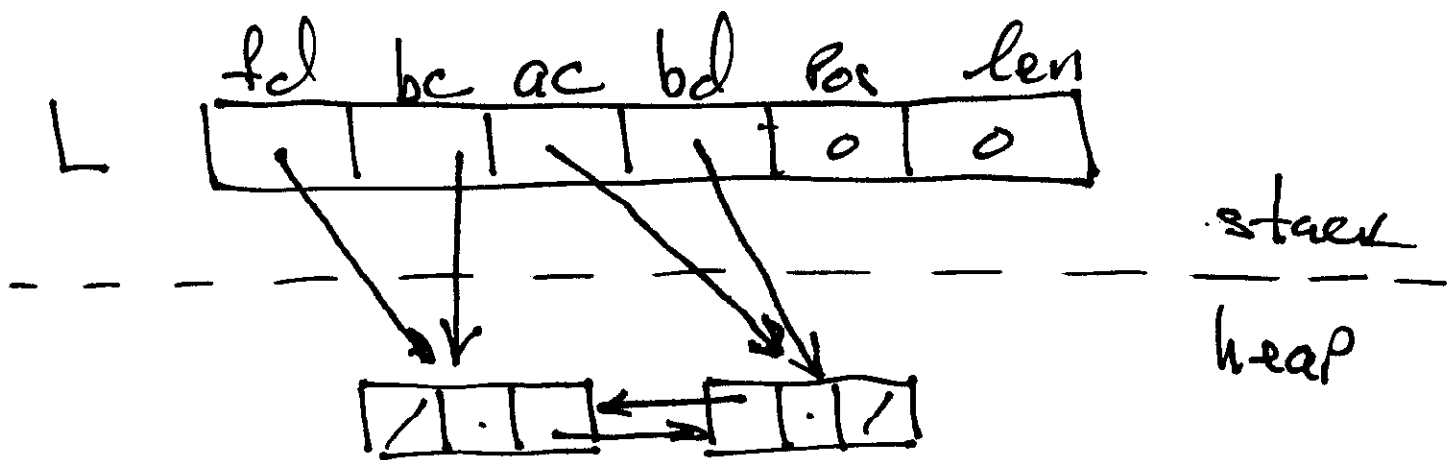
- Pa6: ext. 2 days $\rightarrow$ Friday
- mid2: Th 2/26

Pa6

empty state

client : $(\overset{0}{|})$

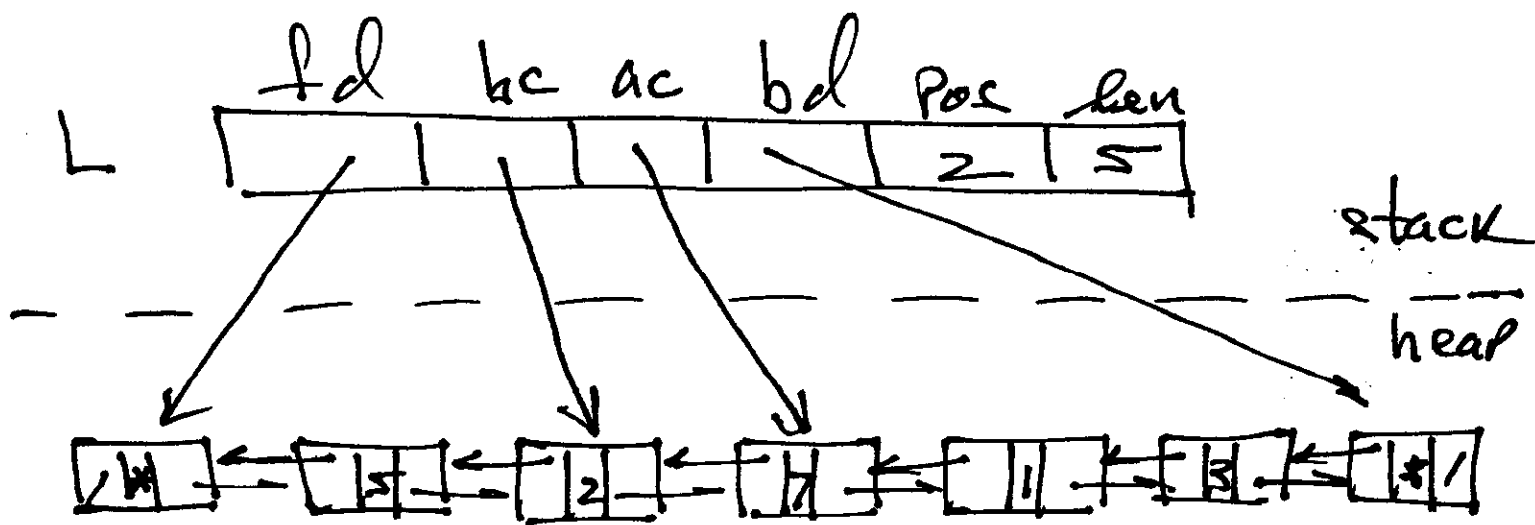
inside :



non-empty state

client: $\begin{pmatrix} 0 & 1 & 2 & 3 & 4 & 5 \\ 5 & 2 & 7 & 1 & 3 & 1 \end{pmatrix}$

inside:



Ex. Inserts

Client: $\boxed{\begin{matrix} 0 & 1 & 2 & 3 \\ (1 & 2 & 5 & 3) \end{matrix}}$ $\text{len} = 3$
 $\text{Pos} = 1$

• L.insertAfter(7)

$\begin{matrix} 0 & 1 & 2 & 3 & 4 \\ (1 & 2 & 7 & 5 & 3) \end{matrix}$ $\text{len} = 4$
 $\text{Pos} = 1$

• L.insertBefore(7)

$\begin{matrix} 0 & 1 & 2 & 3 & 4 \\ (1 & 2 & 7 & 5 & 3) \end{matrix}$ $\text{len} = 4$
 $\text{Pos} = 2$

Ex. find operations

$$L = (\overset{0}{|} 1 \ 2 \ 5 \ 3 \ 4 \ 5 \ 7 \ 6)$$

$$L.findNext(5) \rightarrow \boxed{3}$$

$$L = (1 \ 2 \ 5 \overset{3}{|} 3 \ 4 \ 5 \ 7 \ 6)$$

$$L.findNext(5) \rightarrow \boxed{6}$$

$$L = (1 \ 2 \ 5 \ 3 \ 4 \ 5 \overset{6}{|} 7 \ 6)$$

$$L.findNext(5) \rightarrow \boxed{-1}$$

$$L = (1 \ 2 \ 5 \ 3 \ 4 \ 5 \ 7 \ 6 \overset{8}{|})$$

Ex. cleanup()

$L = (\textcircled{2} \textcircled{3} \textcircled{1} \cancel{7} \cancel{1} \cancel{7} \cancel{7} \cancel{7} \cancel{7})$

$L.\text{cleanup}()$

$L = (2 \ 3 \ 1)$

Ex. cleanup()

$L = (\textcircled{1} \cancel{1} \cancel{1} \textcircled{2} \cancel{7} \cancel{1} \cancel{1} \cancel{7} \cancel{7} \textcircled{3} \cancel{1} \cancel{7} \cancel{7} \cancel{7})$

$L.\text{cleanup}()$

$L = (1 \ 2 \mid 3)$

Binary Search trees

Ex. Suppose T is a BST, and output of Pre Order Tree Walk is

