

Doubly Linked List

QUIZ # 2

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Doubly Linked List

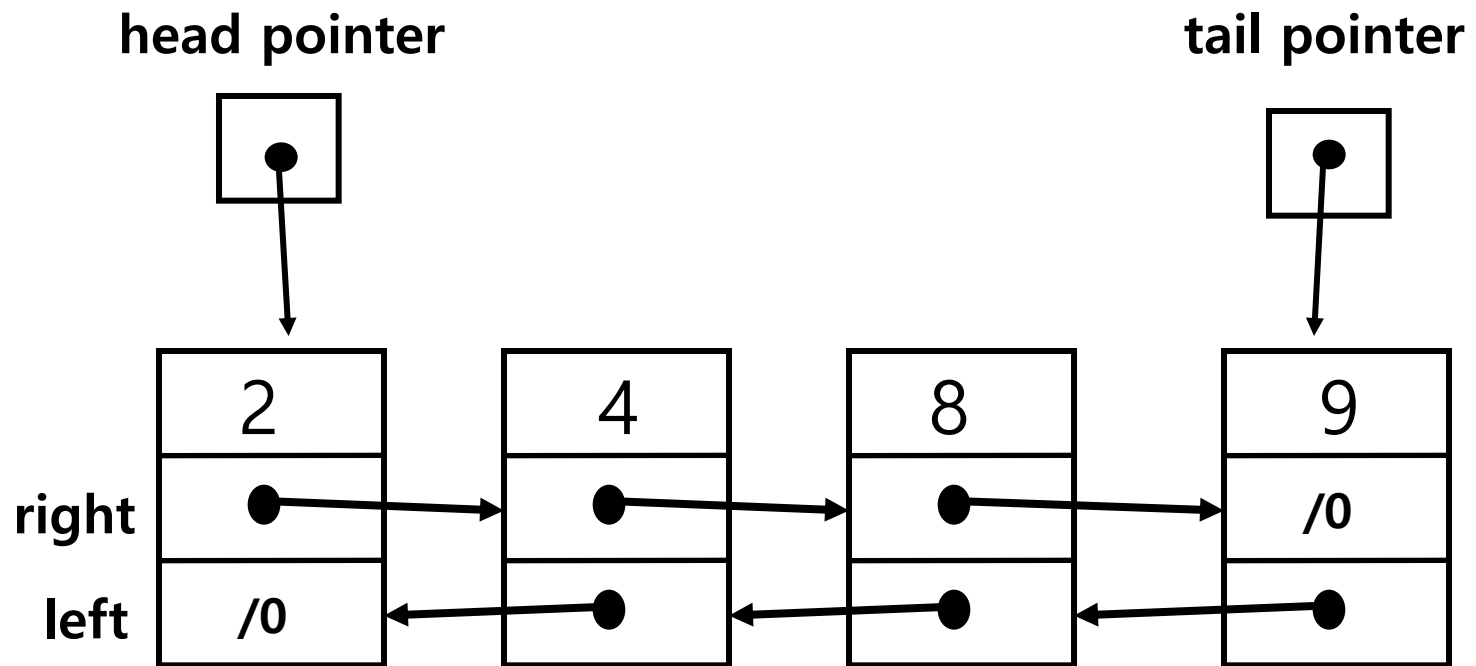
- Linked list in class was a singly linked list.
- Links are made from head to tail only.
- Links of doubly linked list are both from head to tail and tail to head.

Structure of Doubly Linked List

```
typedef struct list_node {  
    struct list_node *right;  
    struct list_node *left;  
    DATA_TYPE data;  
} NODE;
```

We have 2 links; one for link to tail direction, the other for link to head direction

Doubly Linked List



What to do

Write 5 functions

- `int headInsert(NODE **head, NODE **tail, int i_data);`
- `int headDelete(NODE **head, NODE **tail, int *i_data);`
- `int tailInsert(NODE **head, NODE **tail, int i_data);`
- `int tailDelete(NODE **head, NODE **tail, int *i_data);`
- `void deleteList(NODE **head, NODE **tail);`

NOTE: The above 4 functions return 1 if data is actually inserted or deleted, and returns 0 if data cannot be inserted or deleted at any reason.

Two functions are given

- `printListfromHead(NODE *head);`
- `printListfromTail(NODE * tail);`