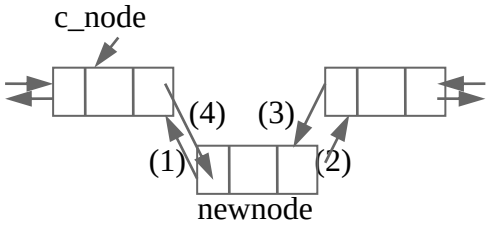
Lab8 Extended Doubly Linked List Exercise

* Menu 로 구성할 것 (Hw4 의 메뉴를 다음과 같이 수정하여 구현할 것)
(1. Insert **2. Insert-After,** **3. Insert_Before** 4.forward, **5.find_Nth** 6. Exit)

1. New ADT

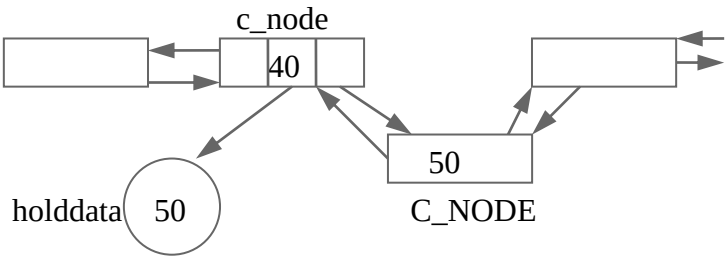
1) Insert_After: //N 번째 노드의 다음에 Insert 함.

```
void insert_after ( c_node,     head) {
        new Node(p);        p->data = newdata;
        if (head == NULL) { head = p;       p->Rlink=p;   p->Llink=p; }
        else {
           p ->Llink = c_node; (1)
           p->Rlink = c_node->Rlink; (2)
           c_node->Rlink->Llink = p; (3)
           c_node->Rlink = p;   (4)
        }
         c_node = p;
    }
```



2) Insert_Before: // N 번째 노드 이전에 Insert 함

```
void insert_before ( c_node,       head)
 { if (head == NULL)   insert_after(newdata);
   else
     {   holddata = c_node->data;          c_node->data = newdata;
         insert_after(holddata);
       }
   }
```



3) Find_nth

c_node= head;
For (i=1; i<n; i++) c_node = c_node->rlink
Print Node.

2. 테스트 예

1) Insert → 10
2) Insert → 20
3) Insert → 30
4) Forward→ 10, 20, 30
5) Insertafter (Nth=2)
6) Forward → 10, 20, 40 30

7) Insertbefore (Nth= 3)
8) Forward →10, 20 50 40 30
9) Find 4^{th} → 40