	//
e (Nodex	3 Doubly Linked List ?
(at) {	mt el, mt k) t bead, mt el, mt
4	contain both Popike back as well as front
(best	1 00109 101 101 101 101 101 101 101 101
	24 2 1 D (m) glow (up of mulas)
10	Referentation
e (el, her	TO NUAL
	NUL 4 1 4 D 2 4 T 4 T 1000
	if (kd=1) & (int) soon work misses knp= need
◆ · 2	Stevenese for doubly Linked Ist ?
sdate.	Class Noole of
3	Public 8
=	Int date;
30C-14W2	Noole* back; Schuller and Johnson
[apono	
	Public: (X==+a)?
	Noole (Int data); Noole = pack 1, Noole + next 1) { data = data1;
1	
	back = back 1;
	new = nent 13
	P. Lace:
	Public:
	Nedle (not data)?
	data = deuta 1; back = NULL)
	nont = NVLL;
	nom - will,
	3:

21/pecamber/23

```
of a conversion nesay to doubly thiked that if
  faire ( Node * , Node * > Converent Alexany 2 DZL ( Weetor Cht 7 vod
      Noelex head = new Node (vecto);
      Node x tuil = NULL;
 Mode + move = nead;
      hote (Ant P=1; PZ wee sizem; P++) of
        Node + temp = new Node (vection movee, NULL);
           mone-7 nont = kmp;
         mone = temp;
            tall = mover;
       return & head, tall }; Il seturning bead as
                              well at tail
& 1 Deletton of the Head 3
   Node * Desetton of nead ( Node * head){
    if (head == NULL OE head -> next == NULL) {
      Elhen NULL)
        Node* temp = head;
        head = head -> nont)
        nead - 7 back = NULLi
        temp-7 nont = NULL;
        delete temps
       echin Hord)
```

```
L Peterson of Tall?
    Nover peletion of tall (Node * head }
         it Chead == NULL OSE Mond-Mond ZZNULL) {
              Cepuen NULL)
         Made & head = new Made (Nec [D] ):
           Node + temp = bead; Ind x 9 hor
           ushile ( temp-7 near -7 near 1 = NULL)?
        3 temp = temp->neat)
            Node + tyl = temp-ment )
             temp-mont = NULL
             tail -> back = NULLS
             delete tail;
ection head;
 of pelete the Kth eboont of D215
   Node* Deletton AtKth (Node* bead, Mt K) {
          if (nead == NULL) & return NOLL; 3
          Noder kmp = head;
          int ont 20) white (+omp) = NVLL)?
             if (cnt==k) break;
              temp = temp-> +pont;
```

Node* prev = temp-7 back; 1/ only one node Noblex Front = temp -> nent; 9 (15 C peop == Front and peov == NULL) { delete Amp; seepon NVII; 11 Head Node 3 WW == + 1997) -1 else of C peopl==NULL) { head = head => nent; nead -> back = NULL; temp -> pont = NULL; delete pomp; Echoron head; 4-11 tall Nede due IFC Rout == NULL78 prev-7 nent = NULL) EMP-> back = NULL; delete temp; Return head; I had sold desert & Nader Must Believe Head C water head, Mr dash NEWS & WONT WORK = DEAR NIEGE OF 1970 11 middle element sond - wood 1000 V -7 mont = Riont) front-7back= poor; femP-7 back = NULL; temp-7 mont = NULL, delete temp; ge turn bead) return heard;

-

-3

9 9

3

2

5

1

90

9

of I pelete a fartfaular Node? edge case of temp must not be head node? world deleterode (Node * Amp)? Node * prev = kmp->back) Moder Pront = PMP-7 next; 11 tall Node if (Rent == NULL) & show how PERV-7 mont = NULL; temp-7back=NULL; Kee (femp); Lehurn; trans prev-nont = Prent Mont-7 back = prav temp-ment = par - > back = NULL; food (Auch) House of Insert selve Head ? Node * Myset Before Head (Nodex head, Int data) & Note & never Node = never Node (data, NUL Li head); head-7 bank = new Node) leturs neuwoode;

I Insect Before Tail ? Node * insert Before tail (Node & bead, int data) { if (nead-rotates nent == NULL) { Mode + new Mode = new Mode (data); nead - ment = new Node; manovode - 7 back = head; cepir head ! Node + bomp = head; uehile (+mp +> mat 1 = NULL) { tempz tomp->next; Node * nan Node = new Node (data, tomp->touck, temp); Jemp->back->nont = nouNode) 1emp-729ck= neudrode) reguen hand,

```
1
   (1) {Reverse PLL3 200 M sodmun sout DIA ?
  mont + 51+2+3+4+53
004Put→ (5+4+3+2+13
4
butes- TCDO(2N)
Node* Callbrute (Node* head) { of on).
         Hack Cont 7 St 3
3
2
         Nede * temp = head;
0
         while the 1= NULLIS that I
             St. fun Cpmp->data);
             temp = temp-7 pout;
        temp= head;
          wehile ( $000 }=NULL) 5
            temp-7dak = St. toPC?;
              H-180PC);
             temp = tong-meat
           lo code: Noolex Func ( Ngole + M) Nede + Ms &
         return bead; to a court of the sound
             NEGLE * GLUMMILNEGLE - NOLO NEGLE C
       Optional: Node* calloptional (Noole*head)
           Node * temp = head;
                 while ( HAMP = NULL)?
      Node * last = pmp-7back;
       temp-7 back = temp-> thent;
          temp-7 nost = last
                    head = jemp)
                 tem P= temp->back;
                 genus head
```