DATE : 26/11/	2024
Lixulan Linked List	
#indude <stdio.4></stdio.4>	
#include < stdbb.h>	
struct Nodel	
struct Nede * link;	
3;	
typedef struct Abde nede;	$\frac{1}{L(i)}$
node * News1, * curs1, * pts;	
void crust();	
Void display (); void Insortstant();	
void Insert Parition (); void Insert End();	
vaid Delte Start ();	
void Delete End();	
void main () f	
printf("In 1. Greate In 2. Display In 3. Insert at Beginning	
at Position In 5. Insert at End In 6. Delete from Be south at Position In 8. Delete at End In 9. Exit");	ginning In
printf("In Enter Your Charic: "); Scanf("Y-a", Sch);	

		1
	PAGE NO :	
	DATE:	
2witch ((4) {		
case 1: create();		
Souak;		
Case 2: display ();		
break;		
case 3: Invertitant ();		
break;		
case 4: Insert Paition ();		
donak;		
case 5: Insert End();		
briak;		
case 6: Delitstart ();		
break;		
Case 7: Delete Position ();		
drugk;		
Cooke 8: Delete End ();		
buck:		
Case 9. Isrit(0);		
3		
ž		
3		
Void create () (		
char ch;		
do √		
new 1= (node * )malloc ( size (node));		
printf(" In Enter Value: ");		
 Scanf("1.d", & new 1 -> data);		
if (start == NULL)[		
start=nw1;		
new1→ link = stort;		
3		

```
else
           curr = start;
            while ( curs -> link != start) [
               curr= curr -> link,
            Curr -> link=nw1;
            new 1 - link = start,
     3
     printf("Do You Want to Add an Element (YIN)?");
    Scanfl "1.d", &ch);
   3 while (ch == 'Y'||ch == 'Y');
void display () [
   of (Start = · NOLL)
         porintf("In Linked list is Empty");
     ptr = Start;
     pointf("Elements in tircular hinked hist: \n");
     printf("1 d ", ptr -> data);
      ptn = ptn = link;
   3 while (ptr ! = start);
  printf(" \n");
 Void InsertStart ()[
       new 1 = (node *) malloc ( Signed (node ));
       print f("In Enter Value. ");
       Scanf ("1.d", bnew 1 > data);
```

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PAGE NO :
                                                       DATE:
           if (start == NULL) {
               start = nue 1;
                new 1-7 link = start;
          else
                nuo 1 → link = start;
                 start = nee 1;
                 ptr = start;
                  while (ph = link) = start) {
                    pti =ptr -> link;
              ptr -> link = start;
Void Insert End () &
       new 1 = (node *) mallor (sized (node));
        printf (" /y Enter Value ");
        Scanf("1.d", Inew 1 - data);
        if (Start == NULL) &
              Start = new 1;
              new 17 dink = start;
        elset
             curr = start;
              while (corr > link != start){
               Curr = curr -> clink;
              curr -> link = new 1;
            new 1 - link = start;
```

```
void Insert Position () [
        int = 1, pos,
         new 1 = lunde * maker (Signey (node));
         pointf (" In Kuter Value: ").
         Kant ("1 d", Enue 1 7 data);
       if (start = NULL) f
           start = new 1;
            new 1 -7 link = stant;
          return,
      printf("Enter Position");
       scanfl" 1.d", & pas);
      i) (pos = = 1) [
          new 1 - link - start;
           Start = nhol;
           ptr = start;
           white (ptr -> dink != start) [
           pt=ptr - link;
            pto - link = start;
    ptr = start;
    while ptr -> link 1 = start &d ic per -1) [
          pts = pts - link;
   if (1==pos-1){
        new 1 -> link = ptn + link;
        pts -> link = nust;
```

```
else
             printf( Pasition Not found);
Z
void Deletestant ()(
        if (Start == NULL) {
             printff "In Linked List is Emply ");
              return;
       node * stemp = start;
       if ( Start = link = = Start) {
               Start = NULL;
       else E
              ptr = start;
              while (ptr 7 link 1 = start) [
                 pts = ptr + diak;
              start = start = link;
             ptr > link = start;
       fore (temp);
       print + (" In first Element Delited");
3
void DeletePosition () &
        unt i= 1, pes;
        if (start == NULL) {
                  print + ("In Linked List is Engly");
                  oreturn;
```

```
point ("Enter Position");
          scantl"/d", 6 pas);
          4 (pos==1) €
                Delitistant ();
                neturi.
         ptr = start;
         node * prev= Null;
         while pts 1 - start & of 16 pas) P
             priv: ptr;
                 pts = ptn - link;
         if (ptr = = start) {
             print(" Position Not Jourd");
          return,
         prind link = dr dink;
        pre of (ptr);
        print ( "Elevent at Parities 1 d Deleted 19");
void Delete End ()
        y (Start = = NULL)
              printf("Kinked Let is Emply");
      node * temp = start;
      if (start - link = = start)
         Start = NULL;
     elsel
```

		PAGE NO :	
		DATE:	
	ptr= start;		
	while (pto a dink! start) {		
	ptn = ptn -> lenk;		
	J.		
	ptr -> link . start;		
	g aau,		
	free (temp);		
	printf("Last Element Soluted");		
	3		
	Output		
	1. Guate		
	2. Display		
	3: Insert at Beginning		
	4. Insert at Pasition		
,	5. Insert at End		
	6. Delete from Beginning		
	7 Delete at Papition		
	8. Delete at End		
	9. East		
4	Enter Your Charic: 1		
	Enter Value: 10		
	Do You Want to Add an Element (YIN)? y		
	Enter Value: 20		
	Don You Want to Add an Element (4/N)2 y		
	Enter Value: 30		
	Do Yen Want to Add on Element (4/N)? n		
	3. V.		
n	Enter Your Choice: 2		
	Elements in Nixulas Linked List:		

	10 20 30	
4	Enter Your Charic: 4	
	Enter Value: 40	
	Enter Restran: 2	
7	Enter Your Choice: 2	
	Eliminto in circular misses	
	10 40 20 30	
	Enter Your Choice: 5	
	Enter Value: 50	
	11.000	
	Elements in aircular Linked hist	
,~	10 40 20 30 50	
	Enter Your Chaice: 6  First Elanest Deleted	
	` >	
Я	Forter Your Choice: 2	
~	Elements in Circular Linked List:	
	7 Enter Your Choice: 8	
	Last Klement Delited	
7	Firsty Your Chaire: 9	
~		
~		
~		