```
U Write a program to insert and detele an element at the
   nth and kth position in a linked list where nard k
    is taken from user
Sol It include estdipins
    - Include Estallibiha
     struct node
      Struct node enext;
      2:
      Struct node « cur, + temp;
      Noted Sopul (struct nodes)
       Void delete (shuct noder)
       Void main (void)
        strud node + S;
       int in,
        S- Null;
       do
         Paint (" - Inter The element To Insert; In;");
         Printf (" 2. Delete In");
        poundf (" 3. Exit In");
         Paintf(" - Enter the choice: "):
```

```
scanf ( ob d', 4n);
       Switch(n)
        case 1: "input (s);
              break;
        Case 2: delde (s);
               break',
         } while (n:= 3)
void input (strud node * 7)
 ant pos, c=1
 Curre X",
 Printf (" Enter the element to be inserted:");
 scanf (" olod", fpos);
      while ( cont - next ! = Null)
      C++ 1
      74 (c== pos)
    £
    -lemp= (struct node+) malloc(size & (struct node))
      Pointf ("-Enter The numbers,");
      scanf ("olod", & temp >n);
```

```
temp - next = con - next;
            curr - rest = temp;
            break ;
World delete (strutt rode + x)
  int pas, c=1;
   Cum = 2;
   Printf ("-Enter the element to be delete", ");
   Scanf (" " | od", of pos);
  while ( curr > next != Null)
   C++ ;
    if (c = pos)
  temp = consent - next;
   curi → nert = cuir→ next → next;
  free (temp)
 cun= cun -next;
```

```
Z
Noid merge (struct node x P, struct node * 9)
 Struct node * P_ curr=P, * 9_ curr = k9',
 Struct node * P_ next, * 9_ next,
  while (P_ curre- Nall ++ 9_ curry = Nall)
f
   P-next = P-curr - next;
   9-next = 9- airv > next;
   9-cury - next= P-next;
    P_ CUTY -> next = q_ cury;
    P_curr = P_next;
    9-curr = 9-next;
  *9=9_ curr
G
int main()
 8
         node + P= Null, + 9= Null;
   Push (4P,1);
    Push (4P,2);
```

```
rush (4p, 3),
Parint f (" First linked list: In');
Print list (R);
Push (49, 4);
Push (49, 5);
 Pusn (49,6),
 Polintf (" second linked list : N");
  Paint tist (9);
  merge (P, 49);
  Parintf (" modified first linked list = \n");
  Point List (P);
   Paintf(" modified second linked list= 10").
   Paint list (2);
 gletuno,
```

```
(2) Construct a new linked list by merging atternatives notes
   of two lists for example in list I ble have $ 1,2,3% and
    In list & we have furs, by in the new list we should
    have & 1,4, 2,5, 3,6%
sol = include < stdio . h>
    It include < stdlibih)
    # included assertins
     Struct node
     {.
      int data;
      shurt node - next;
      3.
     Vaid move node (struct node * + 2; struct node * * y)
      Struct node + Soited merge (struct node + 0, struct
                                                nook & b)
      struct node dummy;
      Stact node + tail = & dummy;
      dummy . next = Hull;
      while (1)
       if (a== Hull)
```

```
* 4 = newnode -> next;
      new node - next = * a:
        * 1 = new node;
  F
void push (struct node + + head - Tief, int new -data)
9
  Struct nodex new-node = (struct noder) malloc
                            (size of (struct node));
 new-node - data = new-data;
 new-node > next = (* head - Hef);
  (+ head - sief) = new - node;
 Uoid point list (struct node + node)
   While (node != Null)
      Printf(" "lod", node - data);
      node = node - next;
   7
```

```
tail - next = b;
     bleak;
  else if (b= = Nall)
 f toil - next = ai,
    break;
if (as dala <= bodala)
  move node of + (tail) = next), +a);
 else
    move node (4 (tail) = next, +b);
  tail = tail + next;
stetuin (dummy next);
Void move node . (struct node + + 9, struct node + + 4)
   Struct node * newnode = * 4;
     assort (new node ! = Hall);
```

10

```
5
```

```
int main ()
5
 Struct node + ples = null;
  Struct noder a= Null;
  Shud noder b= Nall;
  Push (fa, 1);
  Push (+ 0, 2);
  Push (4a,3);
  Push ( to, u);
  Push (46,5);
  Push (46,6);
  res - soited merge (0 b);
  Printf (" merge tinked list &: vn");
  Parint list (res);
 die faru Di
3
```

0

```
Find all The elements in the stack whose sum is
   equal to k (where K is given-from user).
B
  # Include cstdio.h>
   ?H SI(10] 1+0PI=-1, 52[10], +0P2=-1;
   int stempty ()
   €
     94 (top1==-1)
         getun ";
     else
        netuno,
   int si top ()
      neturn si (topi);
   int si pop ()
       top 1 - - ;
   2
   int si push (int a)
   đ
       51[+++p1]=1;
    9 nt s2 empty ( )
    F.
```

```
if (top2 = = -1)
            netun!
        2158
           getunt,
int satop ()
    artuan s2 (top2);
    int sapop ()
     top2-- ;
  int so push (fot a)
    52[++ top 2] = 1;
    int Sum (intk)
      inta;
       while (si empty () 1=1)
          x = sitop();
           SI POP();
```

```
Kitile (siempty() = 1)
           of
              1 ( x + sitop () = K)
               2
                  Parintf (olod) (n", 2, sitop();
                3
                S2 push (sit op ()):
                 SI POPL);
           12/17/18 (52 empty () = 1)
            3
              SI push [S2 top());
               S2 pop ();
            z
3
int main ()
£
   int nine, k;
   Parintf(" enter the no of elements of stack: In");
   scanf(" of d", 4n);
```

```
for (i= 0, kn; i++)

Scanf (" o o cl", 40);

Sipush(e);

Printf (" enter the value of constant sum: \n");

scanf (" o b d v, 4k);

Printf (" The combinations whose sum is equal

to x is: \n");

sum (k);
```

William to the second of the second of the party

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```
Whatte a program to print the elemis in a queue.
1) in neverse order.
ii) i nouternate order.
(i) # Include < stdio. h)
    # include "Stackin"
    at Include " QQ.h"
   int main ()
    3
      9nt . n, arr[20], 1, 1=0;
       Struct Stack s;
       initstack (+s);
       Printf (" Enter no");
        scanf (" " | od", +n);
       for (1=0,120,1++)
       f
          Point ("-Enter values", ");
          scanf ("olod", & ari ["]);
       P
      for (i=0; i<0; i++)
      9
        insert (arr (i));
      Z
```

```
While (ji=n)
        2
          burn(4 2' 99(1)).
          1++;
        4
         Poil nt (" Reverse is");
          while (stopl=-1)
            Print( " olod", pop(45)),
          3
          balotte /u,);
   Metun O;
J,
ii)
    # include <stdio.h>
      Include < stalib.hs
    shuct node f.
      int data;
      Struct Noder next;
    3
  void print notes ( struct node , head)
```

```
L.
       int count = 0;
        while (head! = Hull)?
           rf (count %2 == 0)f.
             Form (" obd, head -> data),
             4
              count + t;
            head - head - next;
void push istruct Nodex & head - 91ef, int new- (56)
  f
     Struct noder new - node = ( struct node *)
                      malloc (size of (struct node));
    new-node -dak = new-dala;
    new-node -> next = (* head - sief);
     (x head - sef) = new - node;
 6
 int main ()
4
   struct node + head = Null;
```

```
Push (& head, 12);

Push (& head, 29);

Push (& head, 23);

Push (& head, 8);

Push (& head, 8);

Paint node (head);

sietumo;
```

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" J' Train to the second

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it is a most admit most

Children last

```
1 11 How array is different from the linked list.
    (ii) Write a program to add the first eliment of
    one list to another list of example we have firs, 3}
    in list I and full, 4? in list 2 we have to get.
    {u,1,2,3} as output for listy and fe,6} for lists.
    (i) The major difference blue thray and linked
Sol
    lists stegards to their structure ithroys are
    index based data structure where each element
    associated with an Prodex on the other hand,
     linked list helies on neference to the previous.
    and next element.
   (11)
      # include astdio h>
      # Include estalib.hs
       struct node
       8
```

int data;

3

struct hode * next '.

void push istruct node + + head _ sict,

```
int new-data)
  Struct noder new_rode=(struct noder) malloc
                        (Size of (Shuct mode));
  news node - data = new - data;
   new-node - next = ( & head - nef);
    (* head - net) = new-node;
word paint list (shuct node + head)
 Stud node + temp = head !
 while (temp! = Hall)
    paintfl" "led", temp - data);
   temp= temp > next',
 Print ("10");
```