

O Concept of linked list:

→ Visual Menory d'agran

Struct Node of int data; stract Mode * next; 3:

1000 Mode 1 ; [1000] \rightarrow 5

11008 Node 2: [1008]

Null Node 3 : [10067

→ each node holds data and a pointer to the next nocle

> last node's (next) is (null).

> Linted List: , a chain of nodes, where each node points to the next, They are dynamic, not fixed like arrays.

Ly unlike averags, nodes are scattered in memory, linked by pointers.

4 Node: data + pointer to next node

Head: pointer to the first node

Tall! last node (next = NULL)

4 er- define a struct node with (int data) and a (next) pointer, then create one node with data 42.

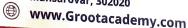
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```
#include <St dio.As
                   Struct Node of
                       int dara;
                      struct Node * next;
                Int main 1) {
                       STruct Node n;
                        n. data = 42;
                        n. nerd = NULL;
                      printy ("Data: "d In", n. data);
                                                               1142
                      return 0;
> Creating a linked list :-
    5-1: define node structure: data 8 a pointer
                     Struct Noell &
                            int data;
                          Struct Node * next;
     5-2! Create list - allocate nodes dynamically s link them
               # include < Stdio. 65
               # indude <Stalib. 6>
                   int main () f
                      Struct Node * head = malloe (size of (struct (nodi))
                         head -> data = 5;
                        head > next = malloc (size of (sinct Noch)),
                         head -> next -> data = 10;
                        head > next > next = NULL;
```

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```
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A C A D E M Y
```

```
Struct Node *current = head;
                avil (current != NULL) f
               printy ("".d ->", current -> data);

current = current > next;

g
printy ("NUCL (m");
          free (read -> nout);

free (read -> nout);

free (read);

ruturen 0;

}
Ext create a linked list with 3 nodes (1,2,3) and print it.
    4 include 2 stdio.6>
         # include Lstalib.h>
             Struct Node &
                    int data:
              Smuch Node * next;
             Int main () {
                   struct Node * head = malloc (size of (struct Node));
                          head -> data = (;
                         head > next = malloc (sizey (sirvet Noeu));
                        head > next > data = 2;
                        nead -> next -> next = malloc (size 4 (smuct Node));
                        head -> next -> next -> data = 3;
                       head -> next -> next -> next = NULL;
```

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⇒ pricing:

price (head -> next-> next): fries trird node (2016)

Ly price (head-> next): fries second node (2008)

Ly price (head): price's first node (2000)

```
Listruct Node *head = mailor (sizing (Struct Node));

⇒ allocates node on the heaf and makes head point to lt.

⇒ (head) is a pointer (heap = dynamic men.)

⇒ ag. addres = 2000

⇒ head → data = 1 (sets the class of 1st node to 1).

Listed → next = mallor (sizing (struct Node))

Listed → next = mallor (sizing (struct Node))

Listed → next → data = 2; (set the 2nd node's data = 2)

Listed → next → data = 2; (set the 2nd node's data = 2)

Listed → next → next = mallor (sizing (savet node));

Listed → next → next → next → next → next → next = 3;

Listed → next → nex
```

ends but by 3rd node next to a wh,