

// A simple C program to introduce a Singly linked list

```
#include<stdio.h>
#include<stdlib.h>

struct Node
{
    int data;
    struct Node *next;
};

// Program to create a simple linked
// list with 3 nodes
int main()
{
    struct Node* head = NULL;
    struct Node* second = NULL;
    struct Node* third = NULL;

    // allocate 3 nodes in the heap
    head = (struct Node*)malloc(sizeof(struct Node));
    second = (struct Node*)malloc(sizeof(struct Node));
    third = (struct Node*)malloc(sizeof(struct Node));

    /* Three blocks have been allocated dynamically.
       We have pointers to these three blocks as first, second and third
       head          second          third
       |             |             |
       |             |             |
       +---+---+    +---+---+    +---+---+
       | # | # |    | # | # |    | # | # |
       +---+---+    +---+---+    +---+---+
       # represents any random value.
       Data is random because we haven't assigned anything yet */

    head->data = 1; //assign data in first node
    head->next = second; // Link first node with the second node
    /* data has been assigned to data part of first block (block
       pointed by head). And next pointer of first block points to
       second. So they both are linked.

       head          second          third
       |             |             |
       |             |             |
       +---+---+    +---+---+    +---+---+
       | 1 | o----->| # | # |    | # | # |
       +---+---+    +---+---+    +---+---+
    */

    second->data = 2; //assign data to second node
    second->next = third; // Link second node with the third node

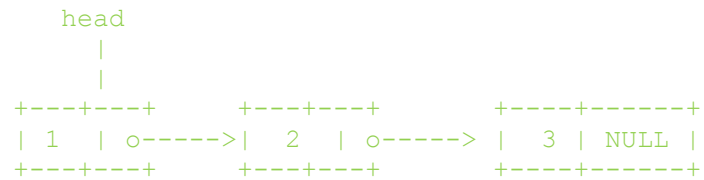
    /* data has been assigned to data part of second block (block pointed by
       second). And next pointer of the second block points to third block.
       So all three blocks are linked.

       head          second          third
       |             |             |
       |             |             |
       +---+---+    +---+---+    +---+---+
       | 1 | o----->| 2 | o----->| # | # |
       +---+---+    +---+---+    +---+---+ */
```

```
third->data = 3; //assign data to third node
third->next = NULL;
```

```
/* data has been assigned to data part of third block (block pointed
   by third). And next pointer of the third block is made NULL to indicate
   that the linked list is terminated here.
```

We have the linked list ready.



Note that only head is sufficient to represent the whole list. We can traverse the complete list by following next pointers. */

```
return 0;
}
```