# Application of memory management in C: Implementation of Linked List

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Linked List (Recap from Data Structure module)

A 'linked list' is a

- linear collection of data elements called 'nodes'

- each node points to the next node in the list

- unlike arrays, linked list nodes are not stored at contiguous locations; they are linked using pointers as shown below.

node   node   node

A → B → C → NULL

Data   Reference
        to next node

Head of the list
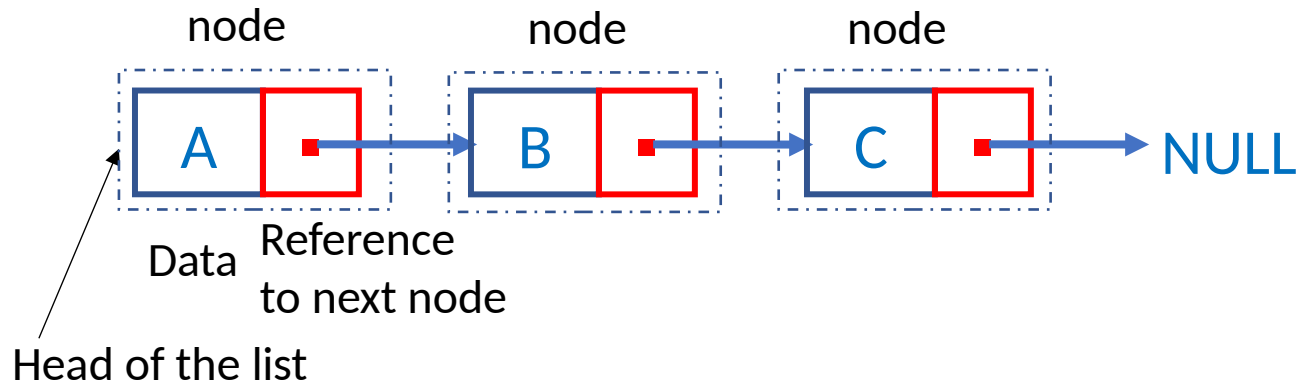
Implementation of singly Linked List in C

Our goal is to implement the following operations:
1. Append at the end of list
2. Search an element in the list
3. Print entire list from the start
4. Free memory occupied by a list

Defining 'Node' of a list in C

A 'node' is a composite data-type which consists of

- a data

- and a reference to the next node

node   node   node

A → B → C → NULL

Data   Reference
        to next node

Head of the list
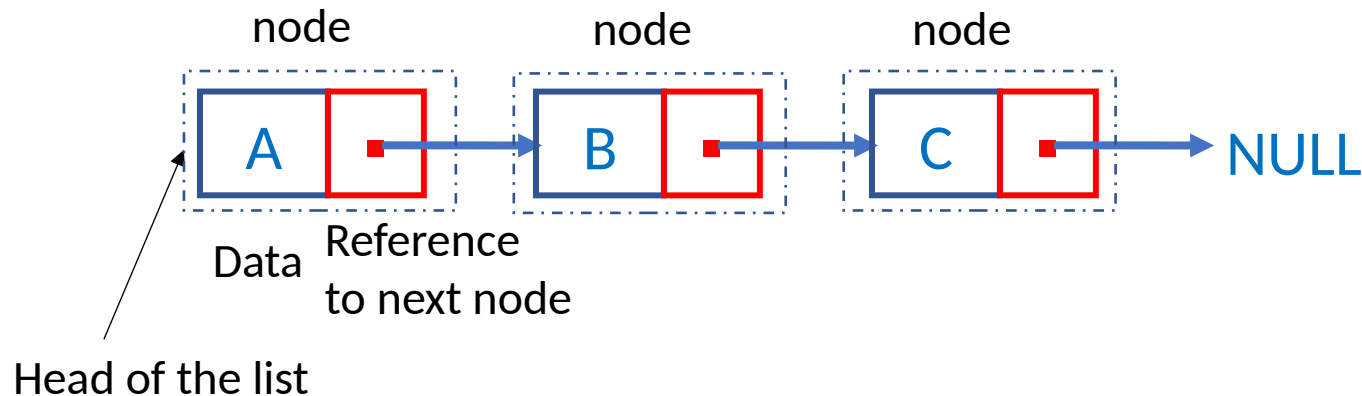
How to define a composite data-type in C?