

# Linked Lists

A linked list is a linear data structure where each element is a separate object, called a node. Each node holds its own data and the address of the next node, thus forming a chain-like structure.

A simple node in a linked list can be represented in C++ as follows:

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

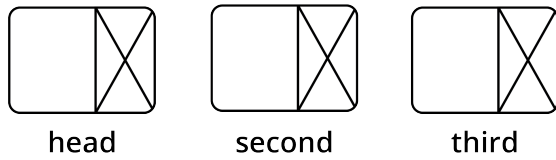


**Node**

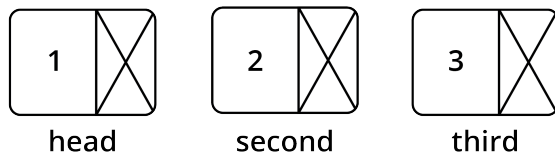
In this structure, 'data' is used to store the data and 'next' is a pointer that holds the address of the next Node in the list.

Here is a simple example of creating and linking nodes in a linked list:

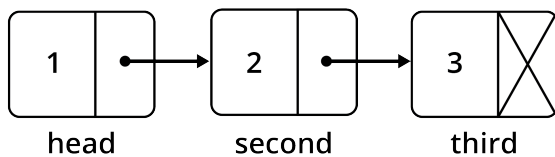
```
// Create nodes  
Node* head = new Node();  
Node* second = new Node();  
Node* third = new Node();
```



```
// Assign data
head->data = 1;
second->data = 2;
third->data = 3;
```



```
// Link nodes
head->next = second;
second->next = third;
third->next = nullptr; // The last node points to null
```



In this example, we first create three nodes using the ‘new’ keyword, which dynamically allocates memory. We then assign data to the nodes and link them using the ‘next’ pointer.



**Rock Song**  
The Geologists



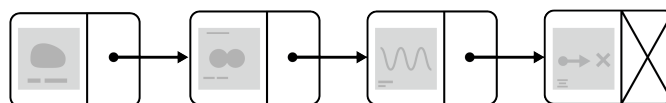
**Nuclear Fusion**  
Helium Bros



**Wavelength**  
Ampli-Tude



**Null Pointer**  
The Exceptions



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*This is a draft chapter from the Kontinua Project. Please see our website (<https://kontinua.org/>) for more details.*



# Answers to Exercises





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