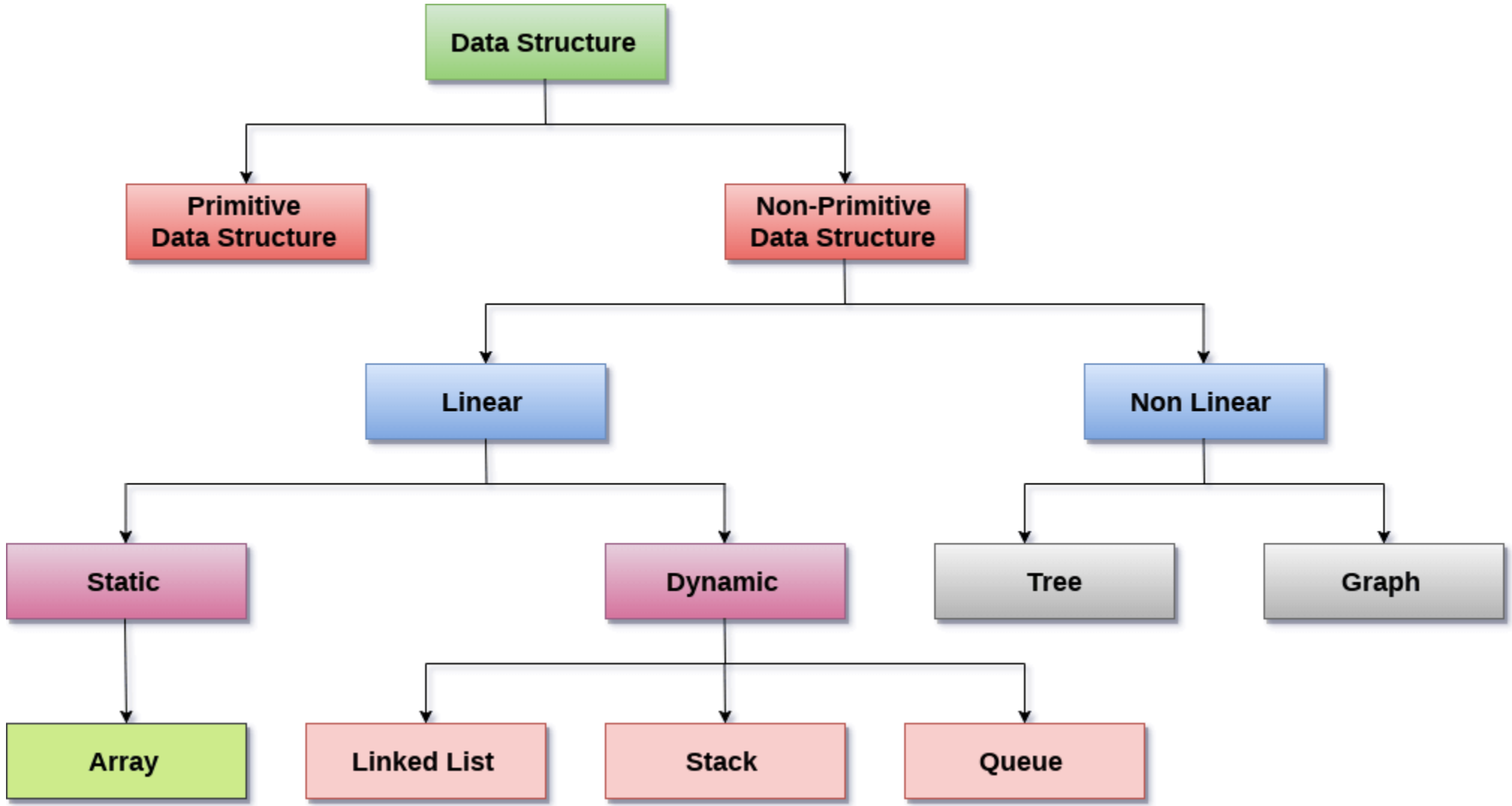
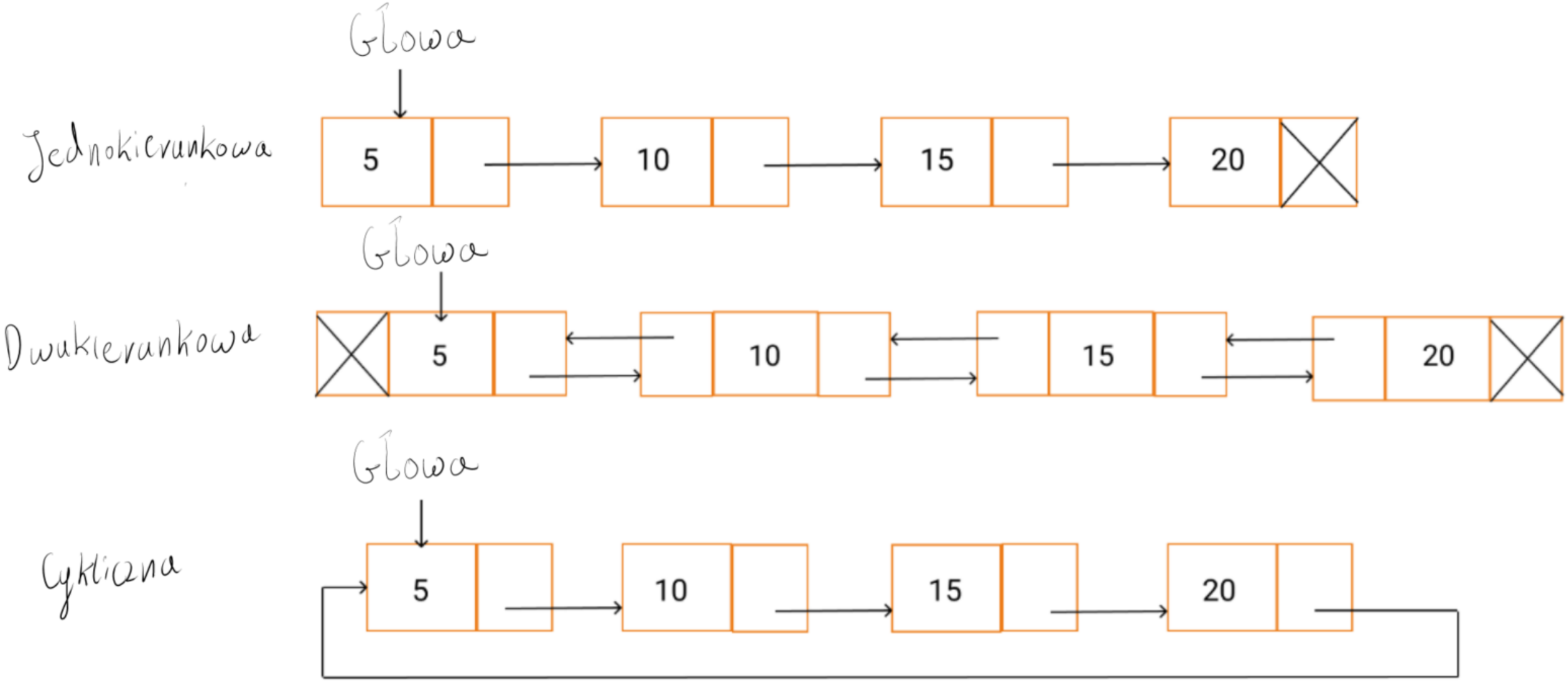
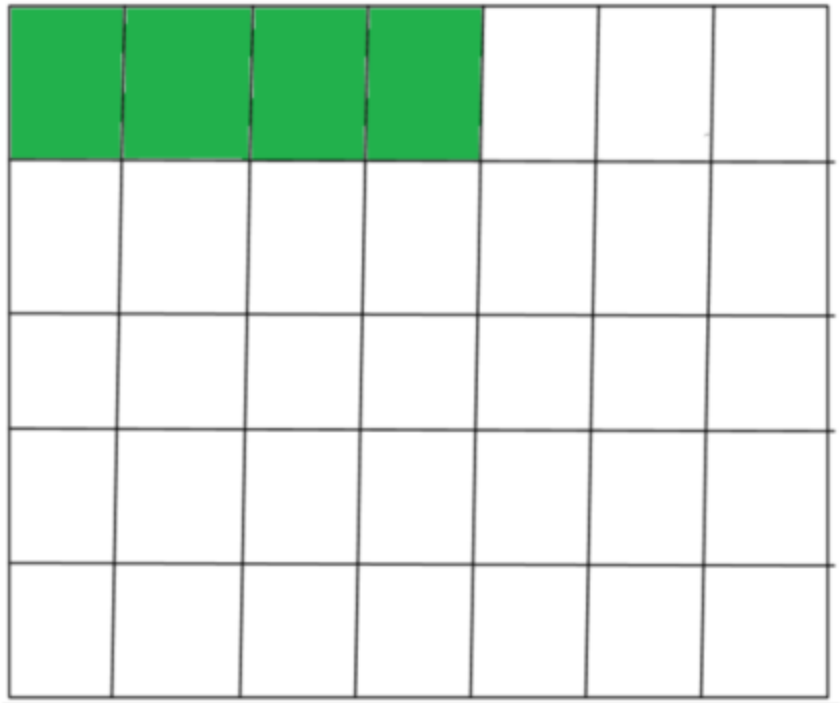
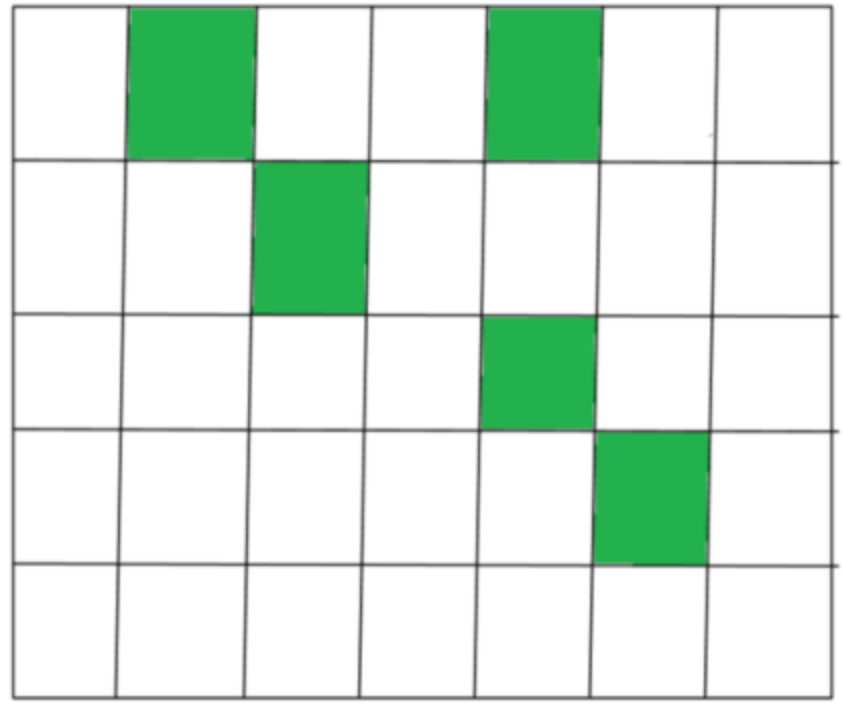

Data Structure
Primitive Data Structure
Non-Primitive Data Structure
Linear
Non Linear
Static
Dynamic
Tree
Graph
Array
Linked List
Stack
Queue


Głowa
Jednokierunkowa
5
10
15
20
Głowa
Dwukierunkowa
5
10
15
20
Głowa
Cykliczna
5
10
15
20

Alokacja



Statyczna



Dynamiczna

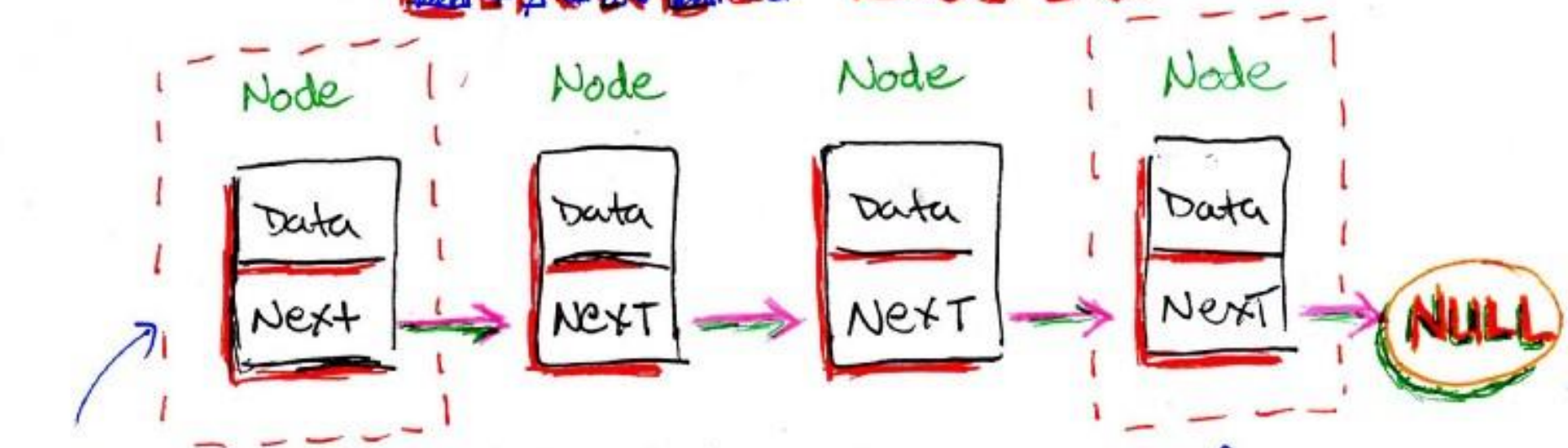
Lista vs Tablica

ARRAY	LINKED LIST
Size of an array is fixed	Size of a list is not fixed
Memory is allocated from stack	Memory is allocated from heap
It is necessary to specify the number of elements during declaration (i.e., during compile time).	It is not necessary to specify the number of elements during declaration (i.e., memory is allocated during run time).
It occupies less memory than a linked list for the same number of elements.	It occupies more memory.
Inserting new elements at the front is potentially expensive because existing elements need to be shifted over to make room.	Inserting a new element at any position can be carried out easily.
Deleting an element from an array is not possible.	Deleting an element is possible.

Lista vs Tablica

Operacja	Lista	Tablica
Wyszukiwanie	O(n)	O(n)
Wstawianie	O(1) ?	O(n)
Usuwanie	O(1) ?	O(n)
Pobieranie	O(n)	O(1)

Linked Lists



This Node, at the start is The Head

* the Next property of a Node "points" or more precisely, is a reference to its following Node. If there is no following Node, then it is set to null.

This Node at the end, is The Tail