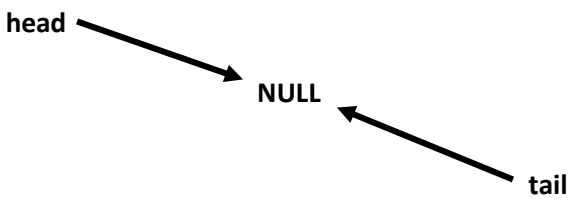
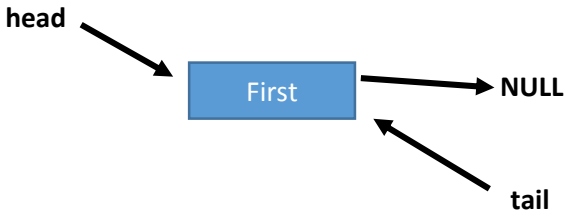
A queue is a First-In-First-Out (FIFO) data structure. In a FIFO data structure, the first element added to the queue will be the first one to be removed. This is equivalent to the requirement that once a new element is added, all elements that were added before have to be removed before the new element can be removed. It is a linear data structure that can be easily implemented as a Linked-List. The easiest way to implement the Linked-List is to always push data onto the back (tail) of the list and always pop data off the front (head) of the list.

Some Examples

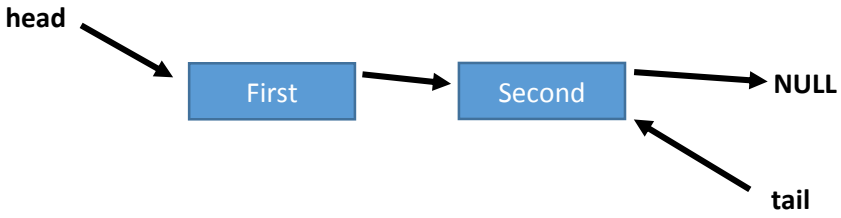
Empty Queue



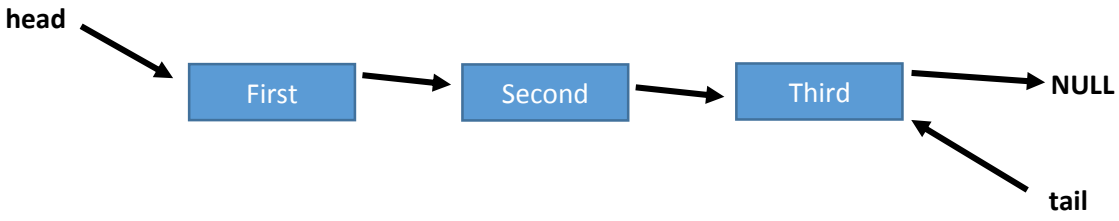
Pushing: Adding the first node



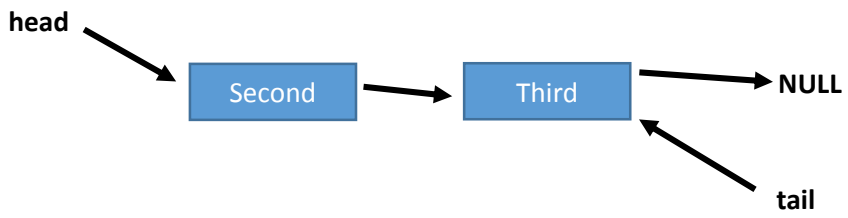
Pushing: Adding a second node



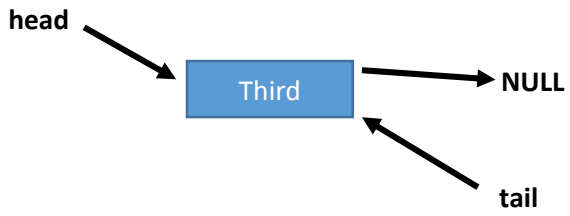
Pushing: Adding a third node



Popping: Removing the first node



Popping: Removing the second node



Popping: Removing the third node