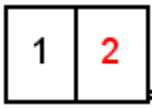
BList Diagrams

push_back

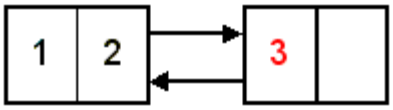
Pushing back the values 1, 2, 3, 4, and 5 into a list with 2 items per node:

Push back **1**:

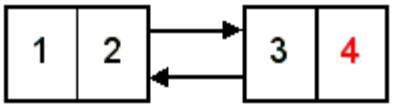
Push back **2**:



Push back **3**:



Push back **4**:



Push back **5**:

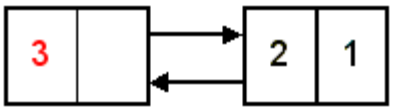
push_front

Pushing front the values 1, 2, 3, 4, and 5 into a list with 2 items per node:

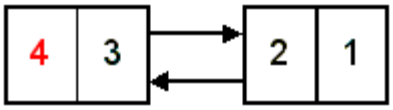
Push front **1**:

Push front **2**:

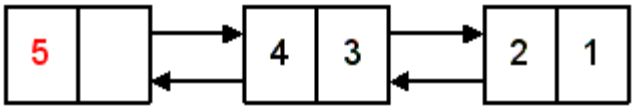
Push front **3**:



Push front **4**:



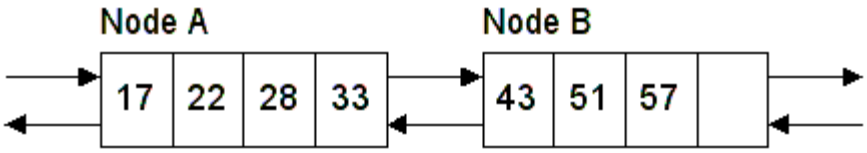
Push front **5**:



insert

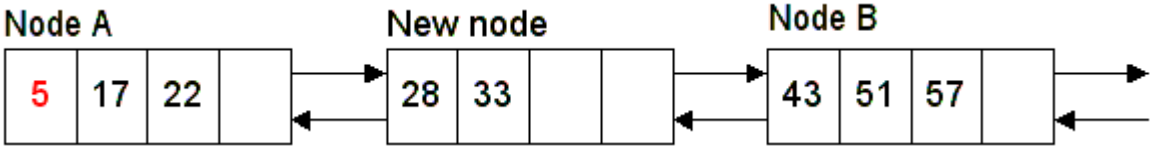
Examples of inserting values into a sorted list with 4 items per node.

Inserting into a full node. Assume this is the starting point:

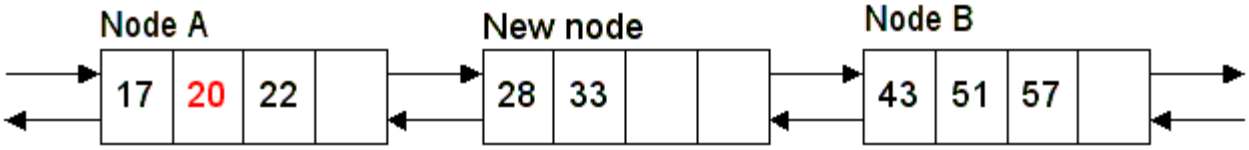


This assumes that Node A is at the head of the list. Otherwise, it would go before Node A.

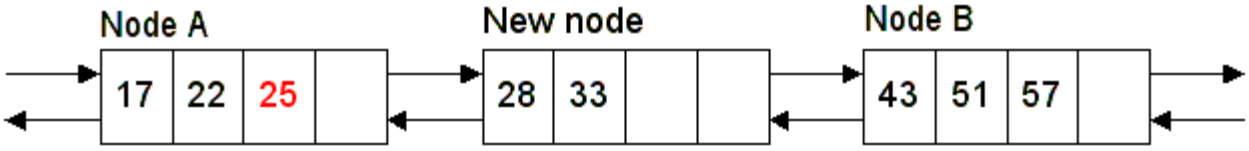
Inserting the value **5**.



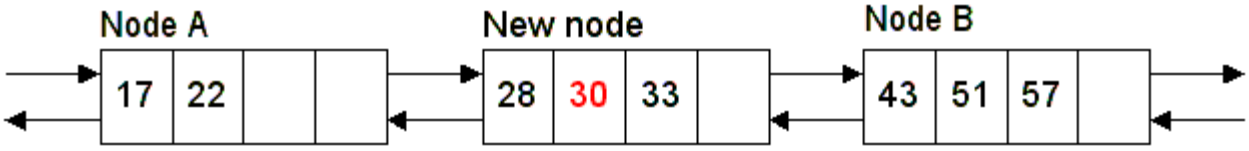
Inserting the value **20**:



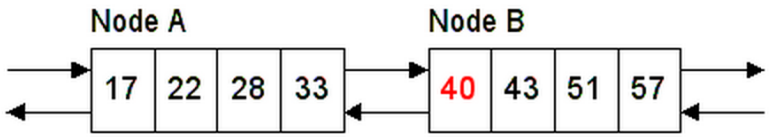
Inserting the value **25**:



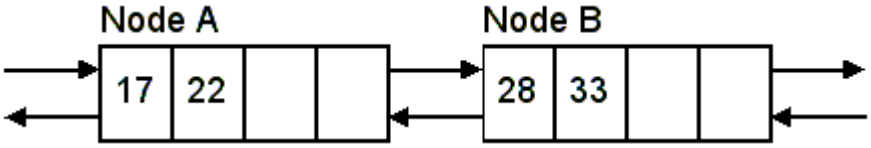
Inserting the value **30**:



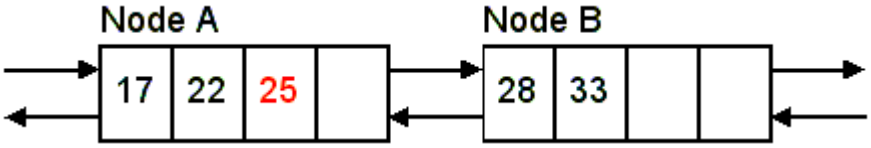
Inserting the value **40**.



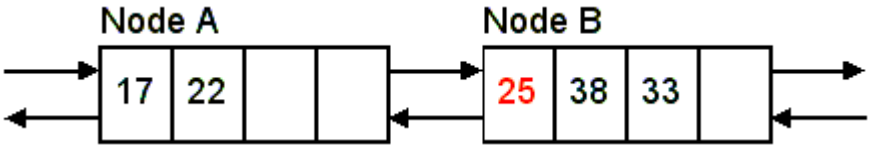
Assume we have this situation and want to insert the value **25**:



Inserting the value **25** (Correct):



Inserting the value **25** (Incorrect):

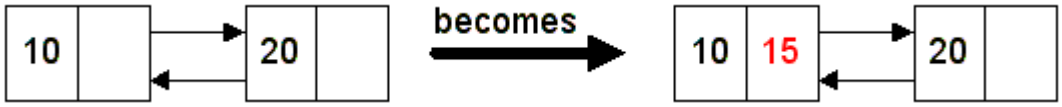


Splitting Examples

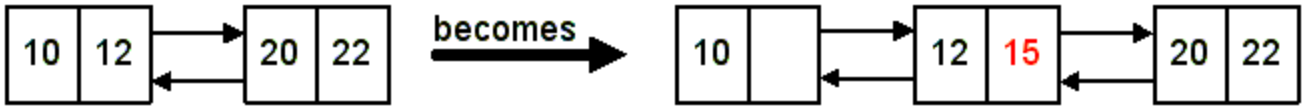
When a value can go in either the left or right node, this is how it is done.

Inserting the value **15** in four different cases.

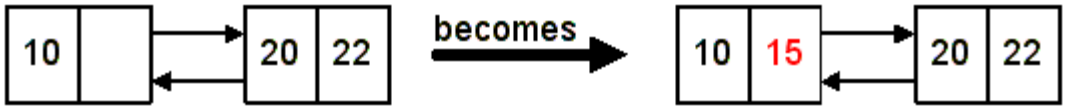
Both the left and right nodes have room:



Both the left and right nodes are full: (Split the left node)



The left node has room and right node is full:



The left node is full and the right node has room: