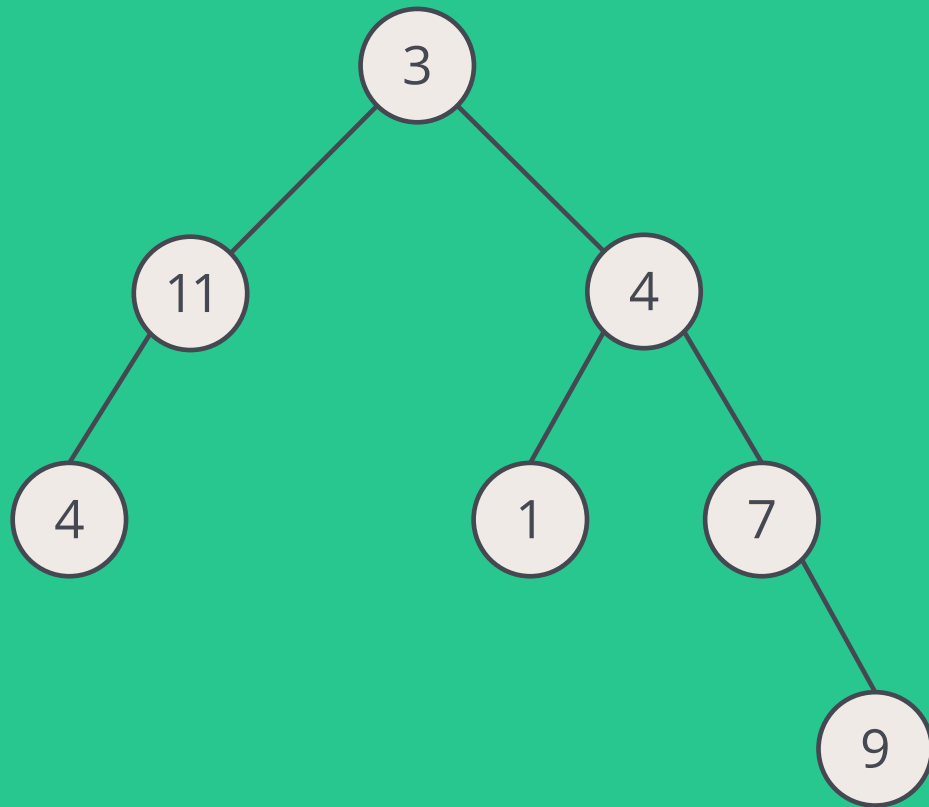


Average of Levels in Binary Tree

.....



Variables

Queue

--	--	--	--	--	--

Averages

--	--	--	--	--	--

node

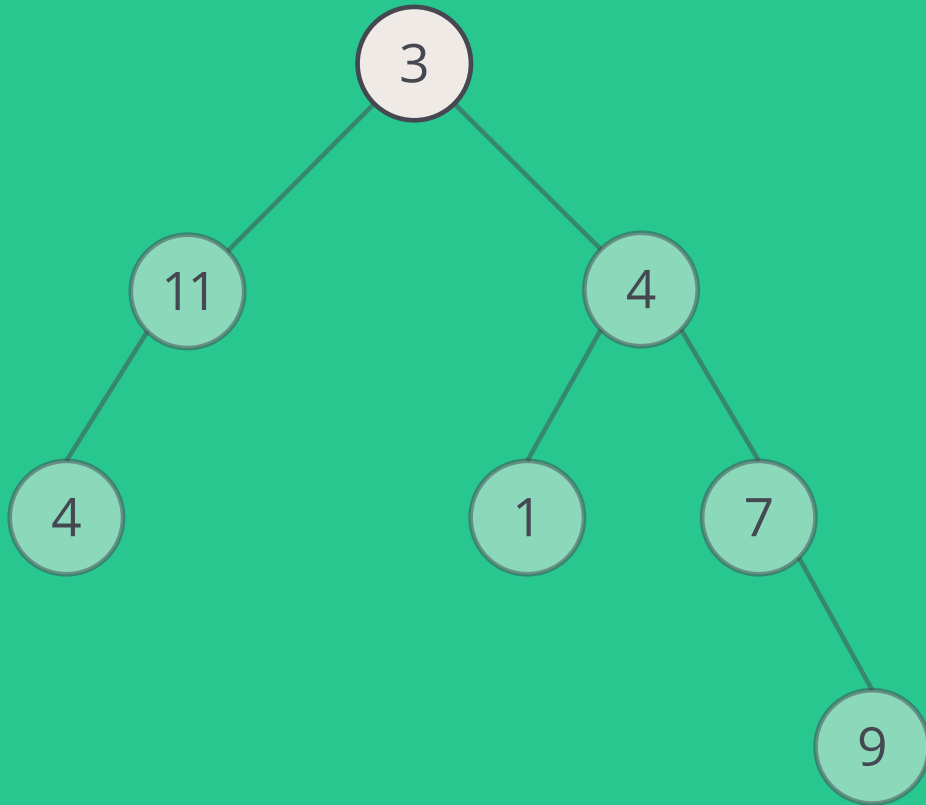
--

nodes_count_per_level =

sum_per_level =

Average of Levels in Binary Tree

.....



Initializing with the root node

Queue



Averages



node

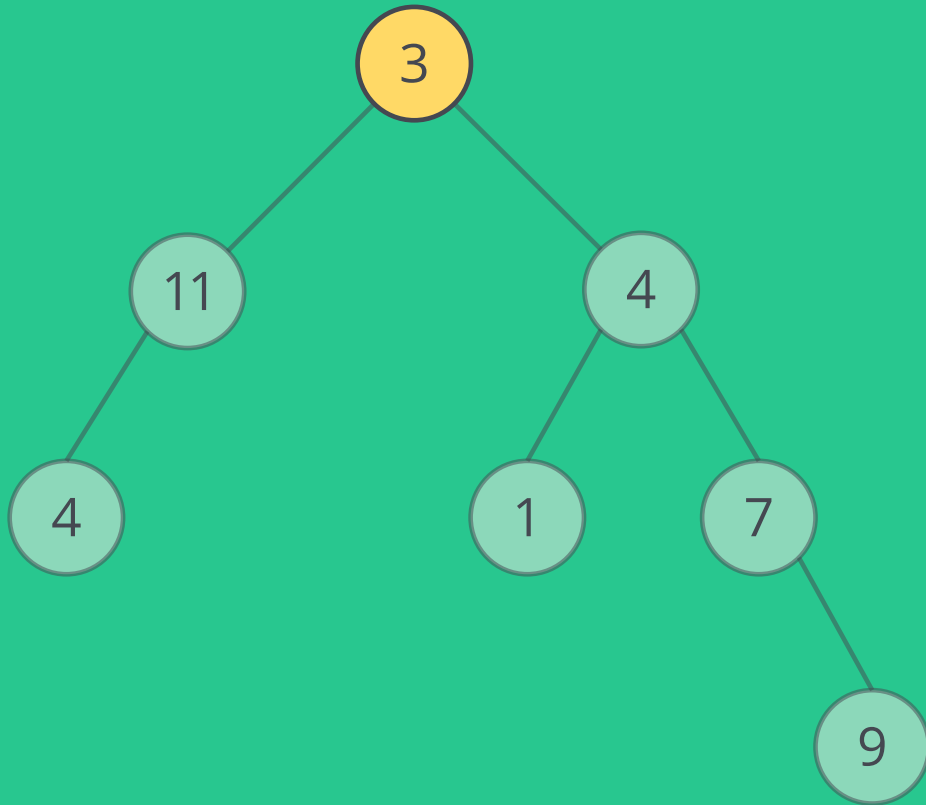


nodes_count_per_level =

sum_per_level =

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

Queue



Averages



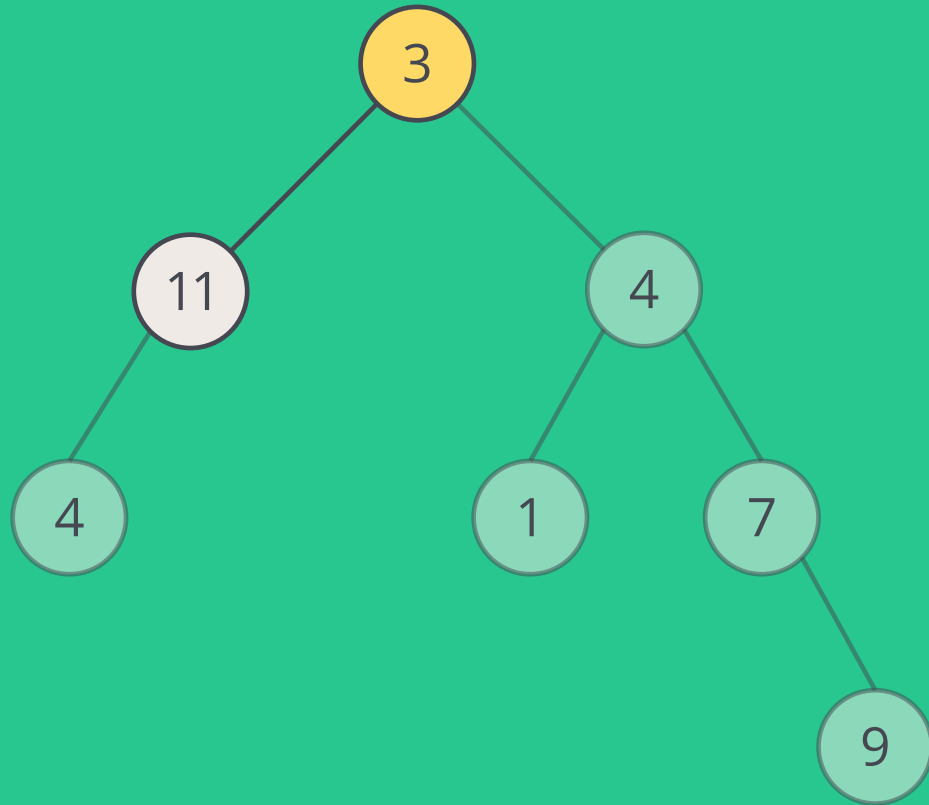
node



nodes_count_per_level = 1

sum_per_level = 3

Average of Levels in Binary Tree



Adding **left child**

Queue



Averages



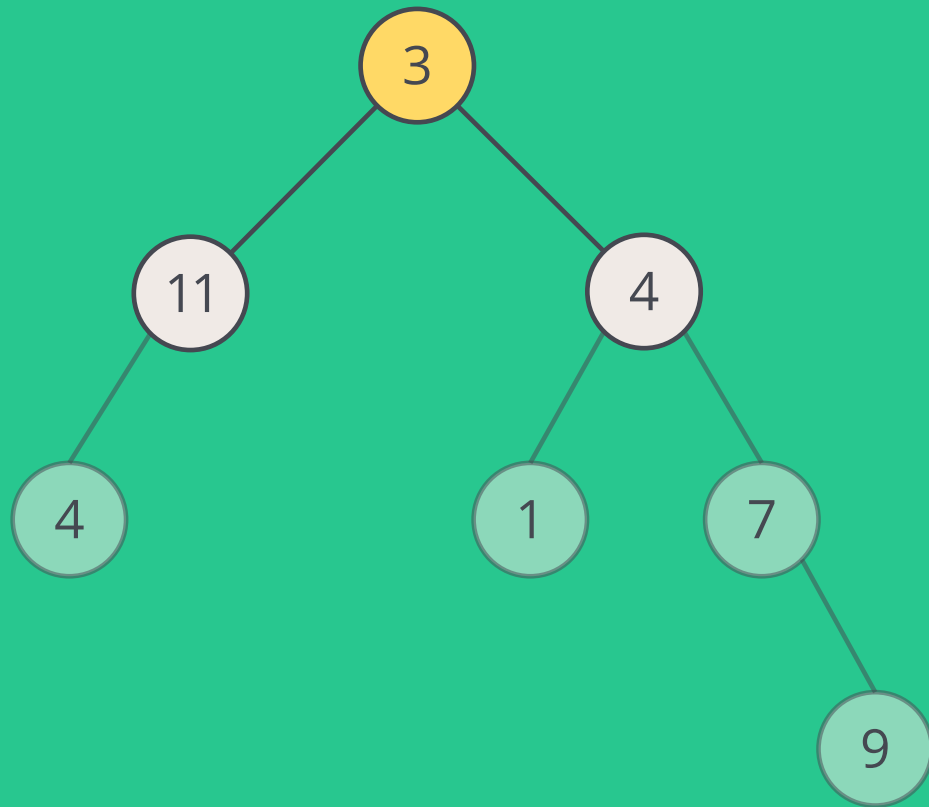
node



nodes_count_per_level = 1

sum_per_level = 3

Average of Levels in Binary Tree



Adding **right child**

Queue



Averages



node

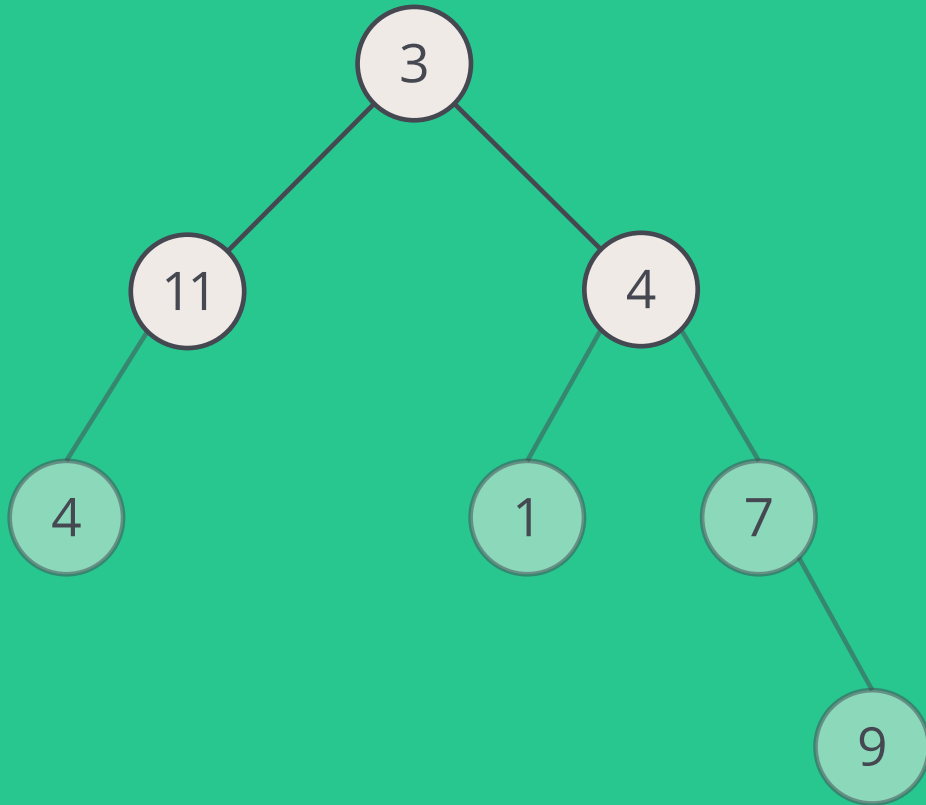


nodes_count_per_level = 1

sum_per_level = 3

Average of Levels in Binary Tree

.....



Loop - Picking up a node from the Queue

Queue



Averages



node

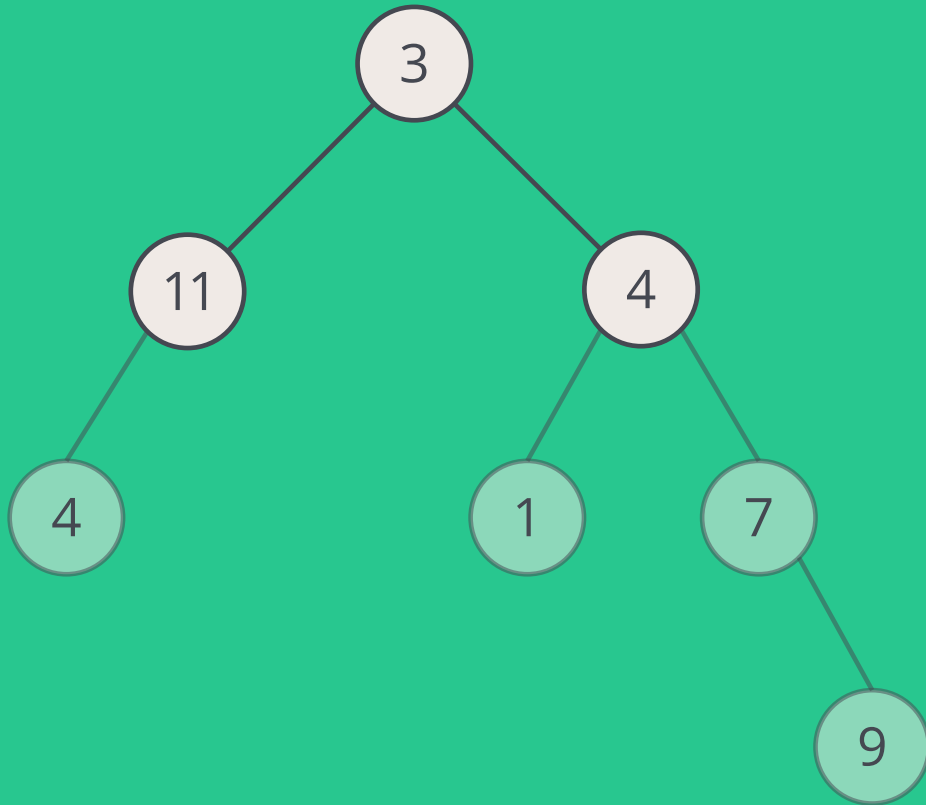


nodes_count_per_level = 1

sum_per_level = 3

Average of Levels in Binary Tree

.....



Null node $\Rightarrow$ End of level $\Rightarrow$ Update averages

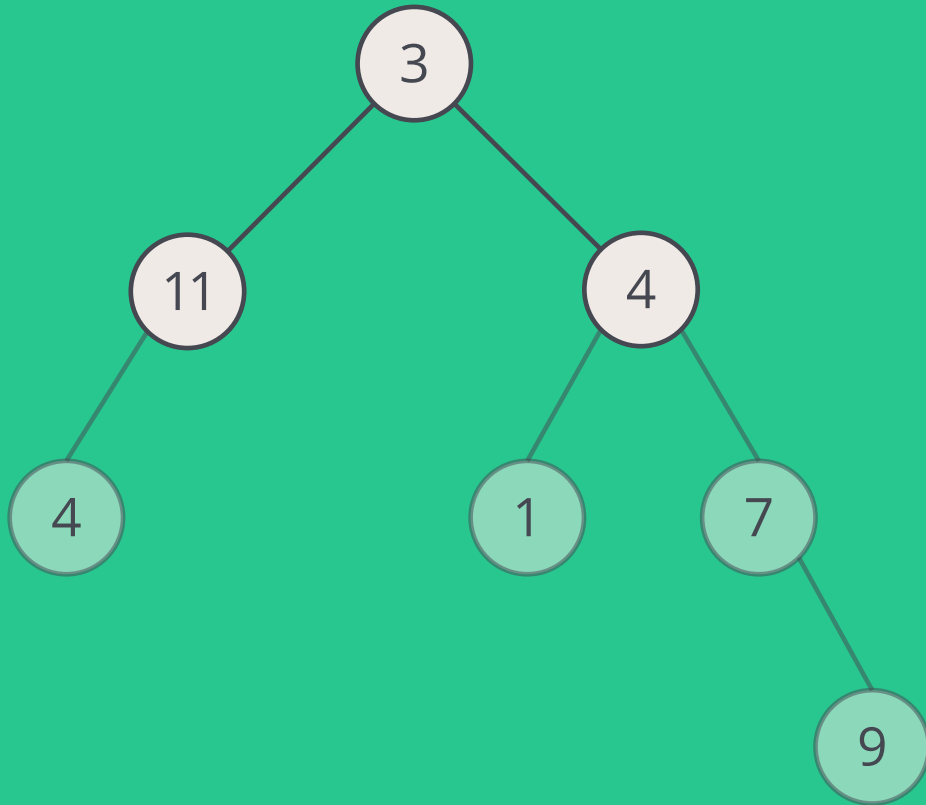
Queue	11	4				
Averages	3					
node	$\emptyset$					

nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....



Null node $\Rightarrow$ End of level & first node is not Null

Queue

11	4	$\emptyset$				
----	---	-------------	--	--	--	--

Averages

3						
---	--	--	--	--	--	--

node

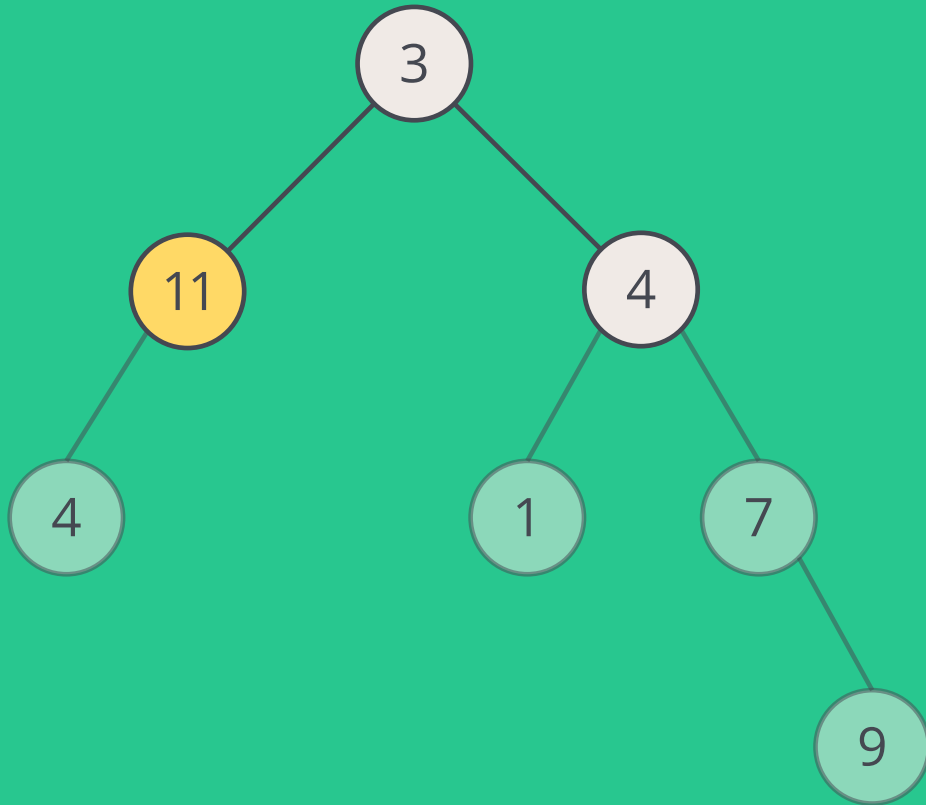
$\emptyset$

nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

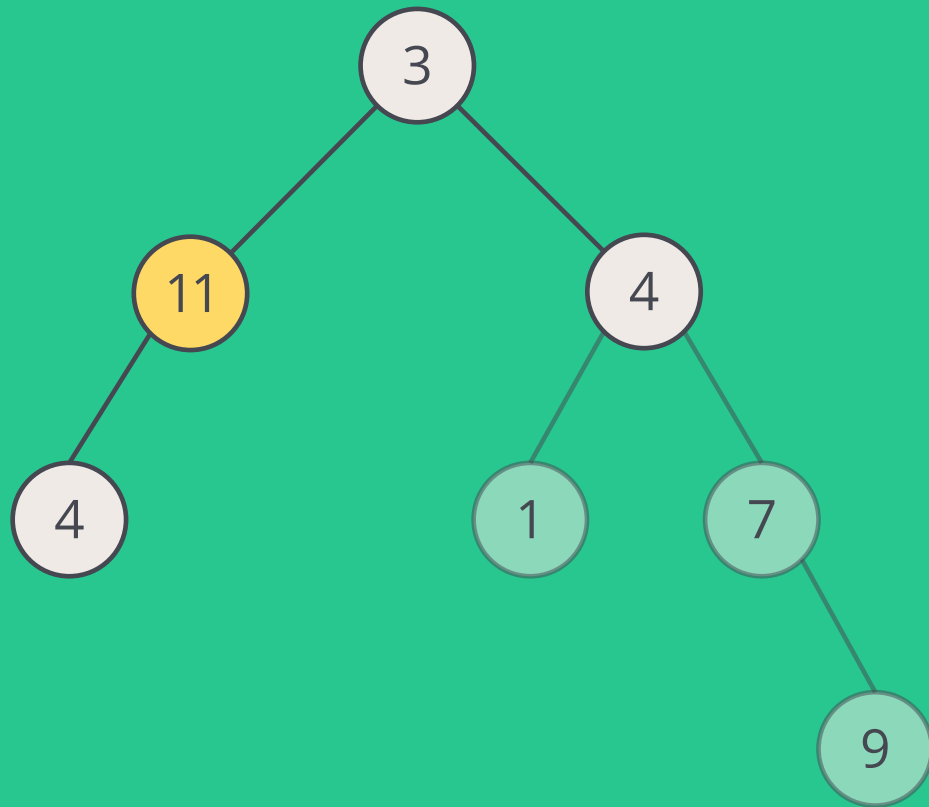
Queue	4	∅				
Averages	3					
node	11					

nodes_count_per_level = 1

sum_per_level = 11

Average of Levels in Binary Tree

.....



Adding **left child**

Queue



Averages



node

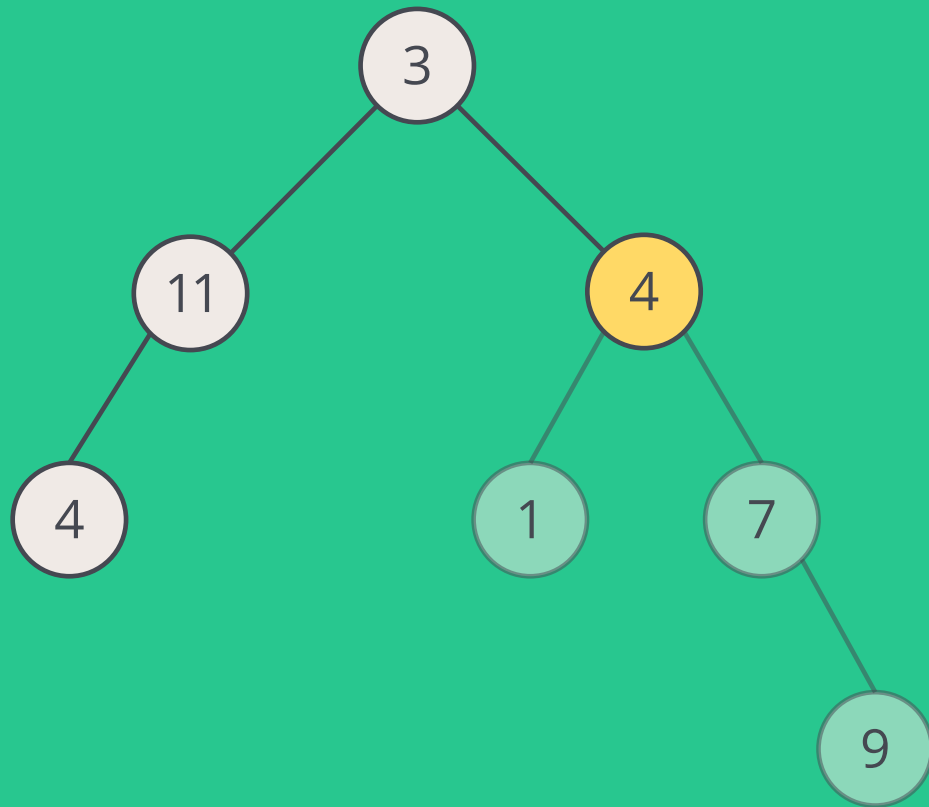


nodes_count_per_level = 1

sum_per_level = 11

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

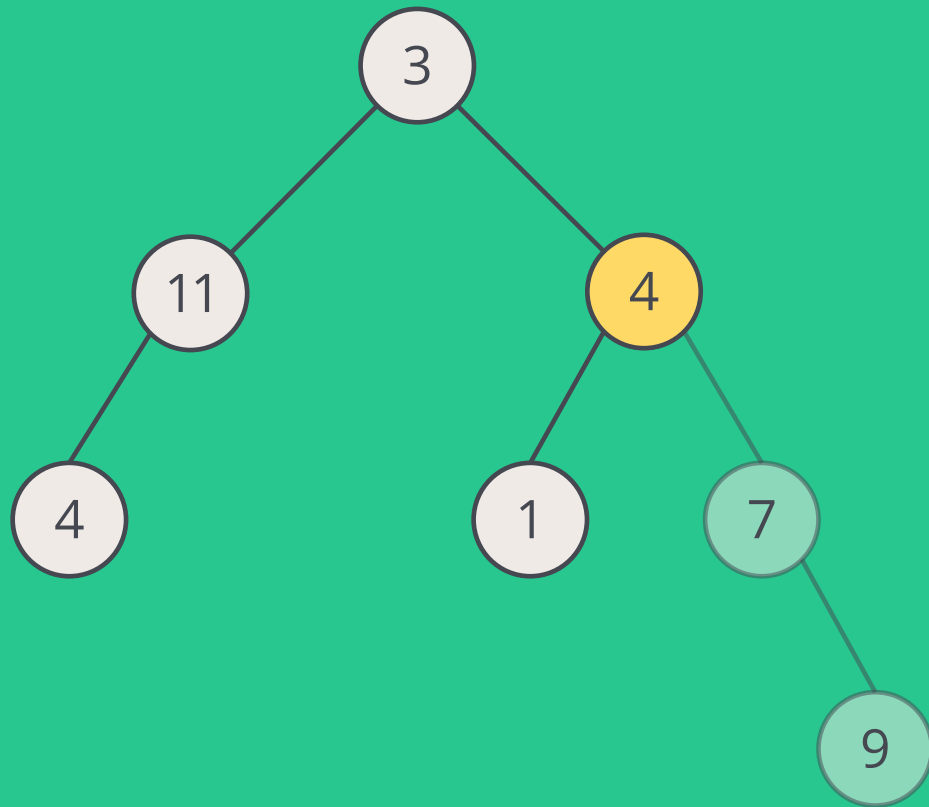
Queue	∅	4				
Averages	3					
node	4					

nodes_count_per_level = 1 + 1

sum_per_level = 11 + 4

Average of Levels in Binary Tree

.....



Adding **left child**

Queue



Averages



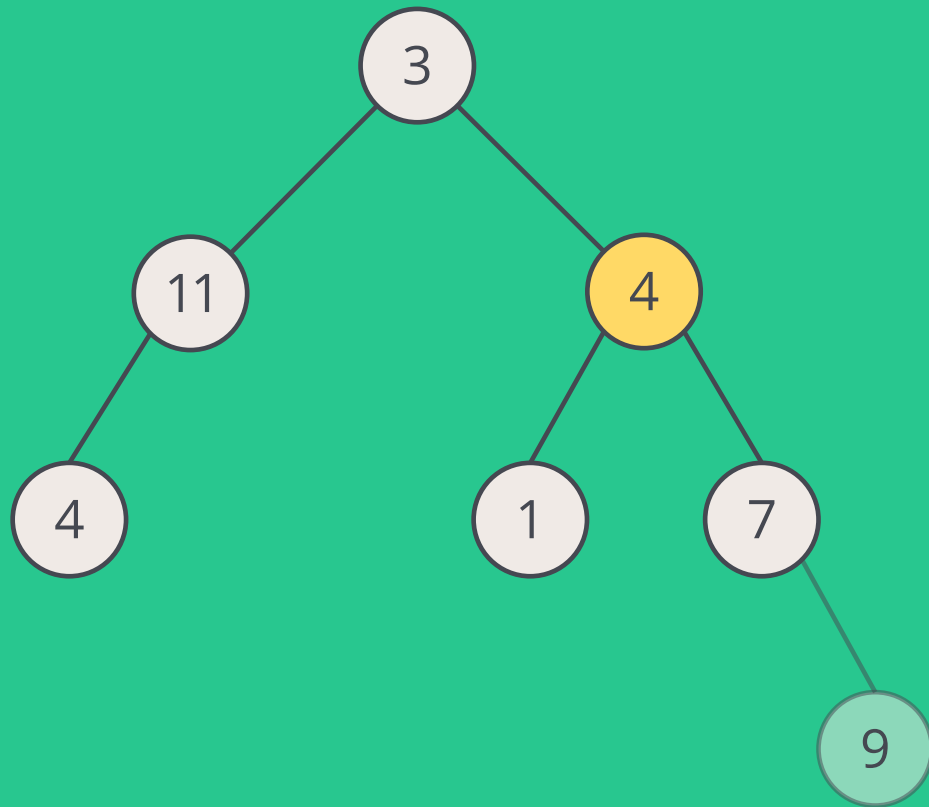
node



nodes_count_per_level = 1 + 1

sum_per_level = 11 + 4

Average of Levels in Binary Tree



Adding **right child**

Queue



Averages



node

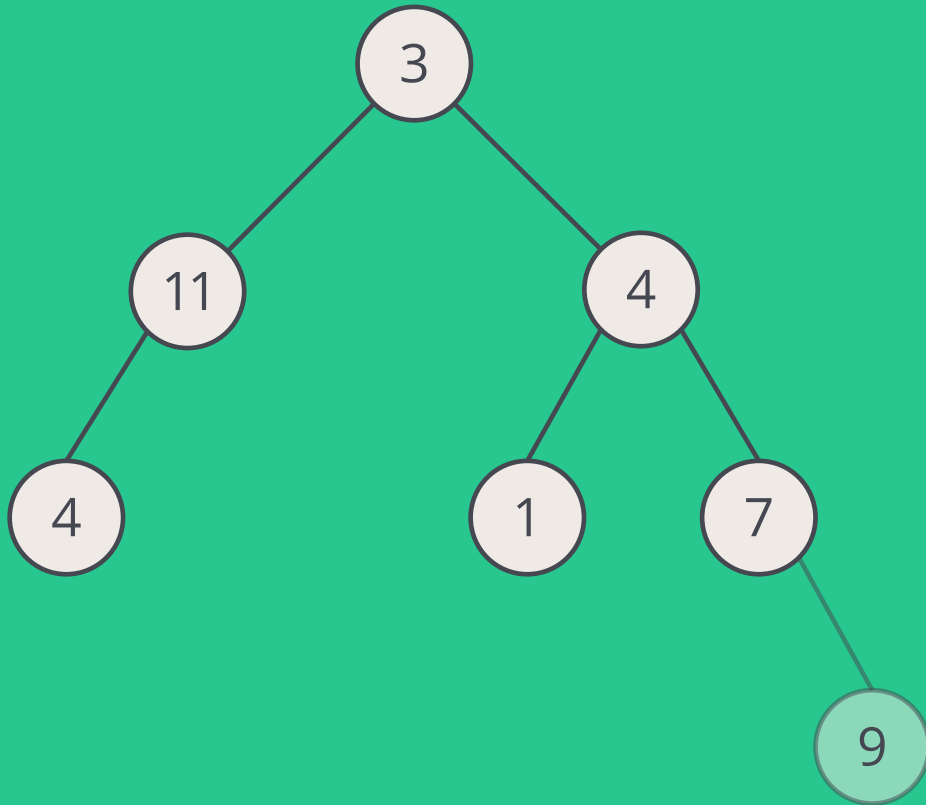


nodes_count_per_level = 1 + 1

sum_per_level = 11 + 4

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

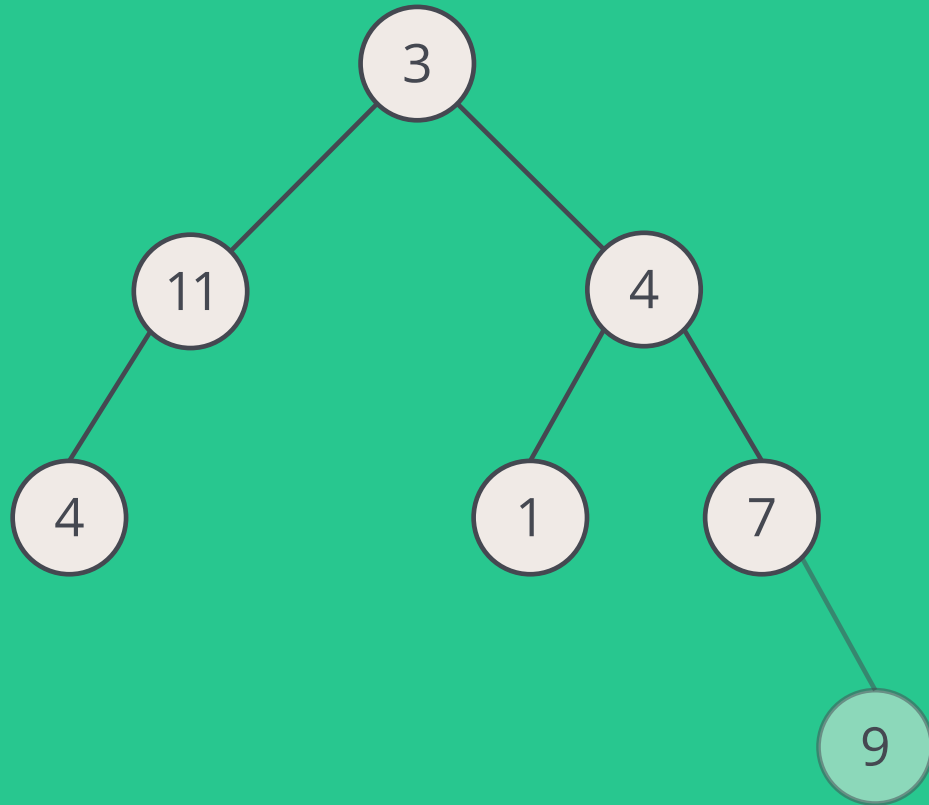
Queue	4	1	7				
Averages	3						
node	∅						

nodes_count_per_level = 1 + 1

sum_per_level = 11 + 4

Average of Levels in Binary Tree

.....



Null node $\Rightarrow$ End of level

Queue



Averages



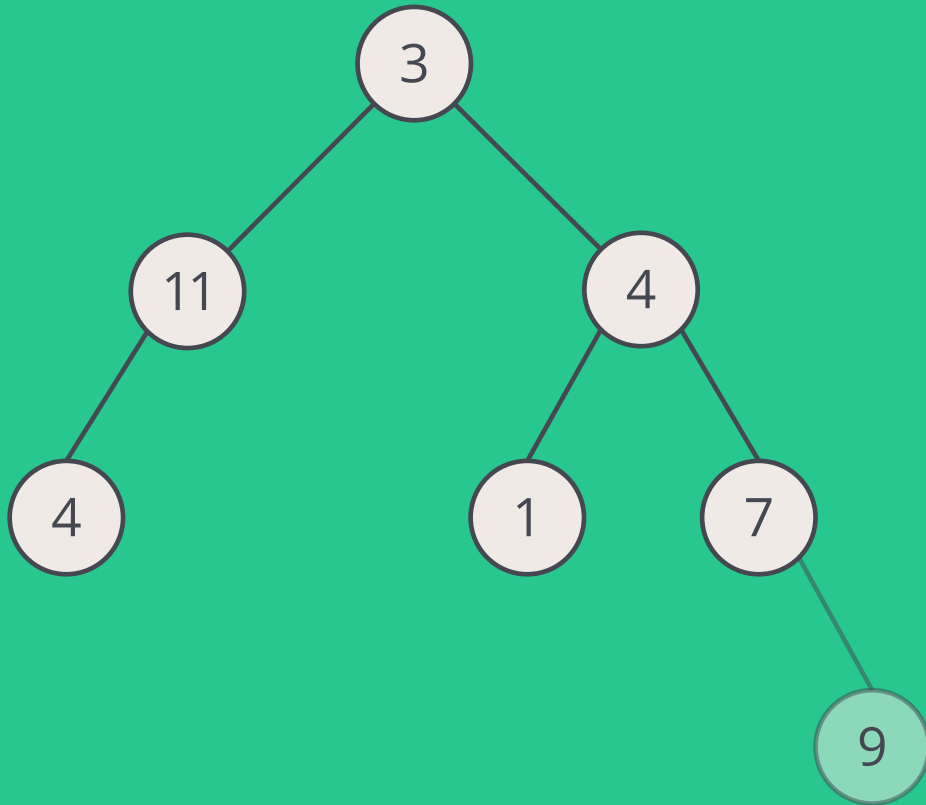
node



nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree



Null node $\Rightarrow$ End of level & first node is not Null

Queue

4	1	7	$\emptyset$			
---	---	---	-------------	--	--	--

Averages

3	7.5					
---	-----	--	--	--	--	--

node

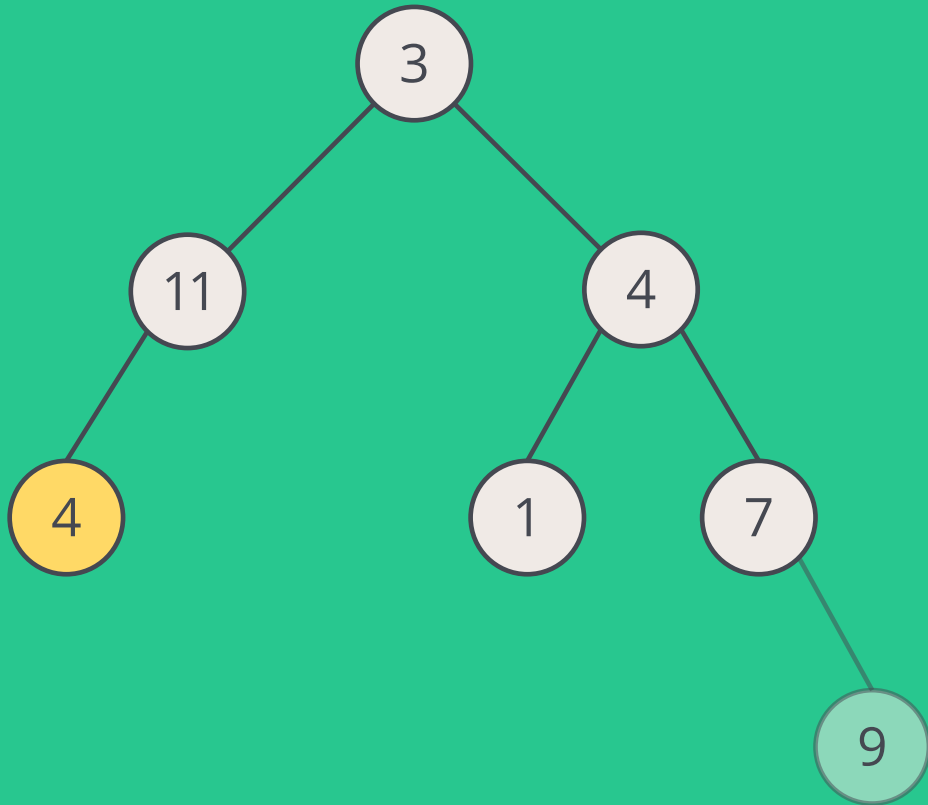
$\emptyset$

nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

Queue

1	7	∅				
---	---	---	--	--	--	--

Averages

3	7.5					
---	-----	--	--	--	--	--

node

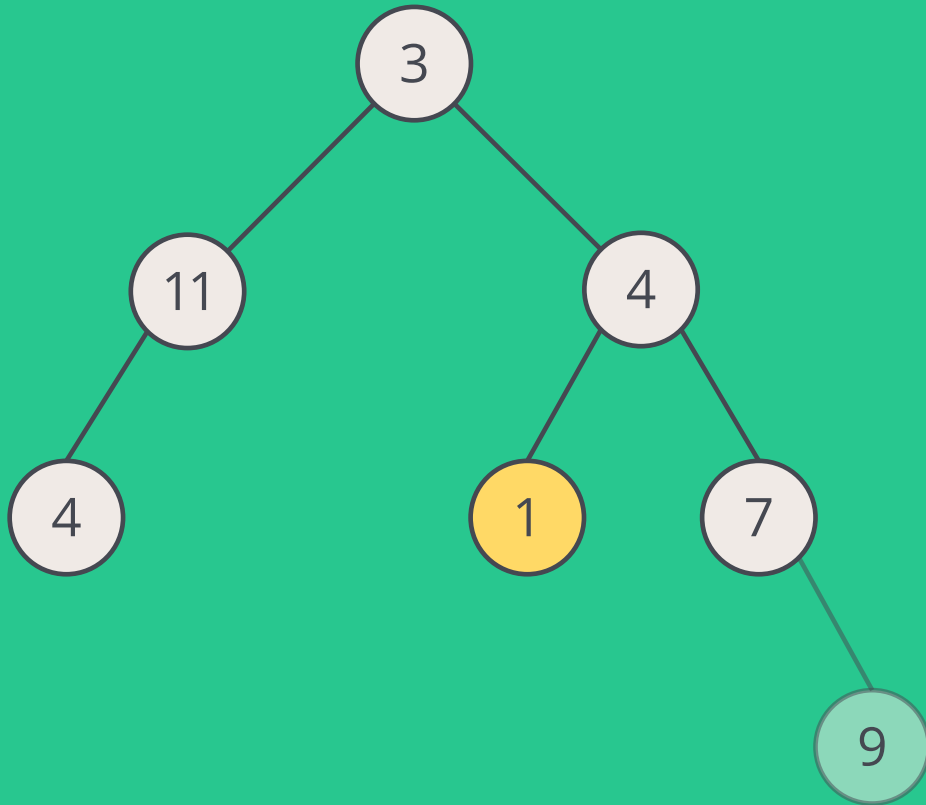
4

nodes_count_per_level = 1

sum_per_level = 4

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

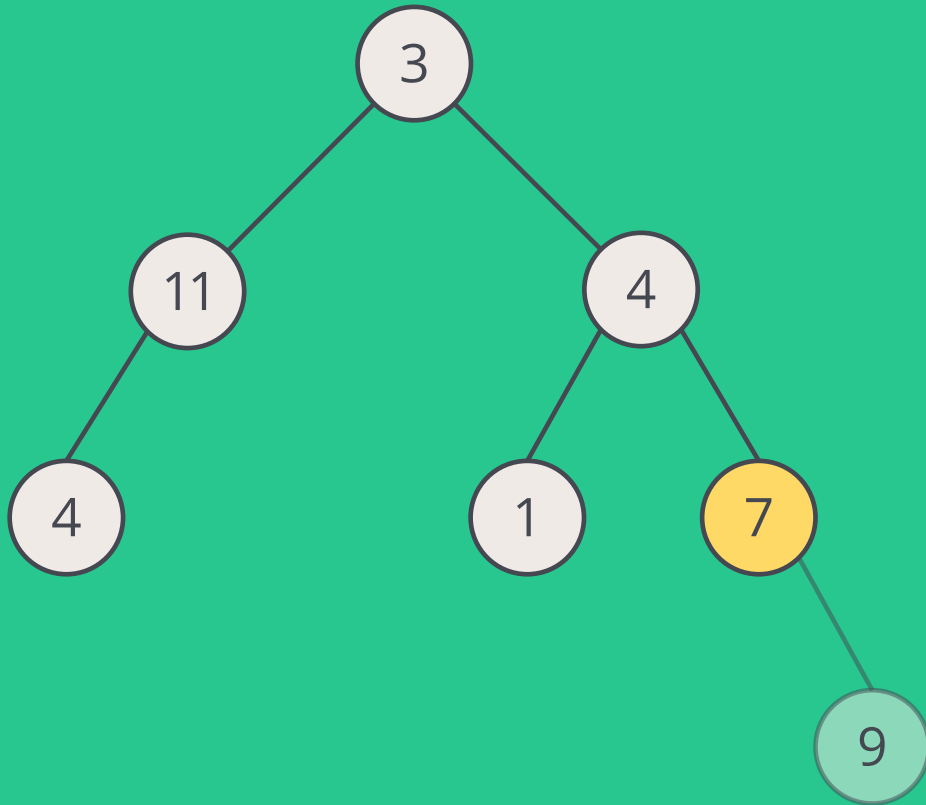
Queue	7	∅				
Averages	3	7.5				
node	1					

nodes_count_per_level = 1 + 1

sum_per_level = 4 + 1

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

Queue



Averages



node

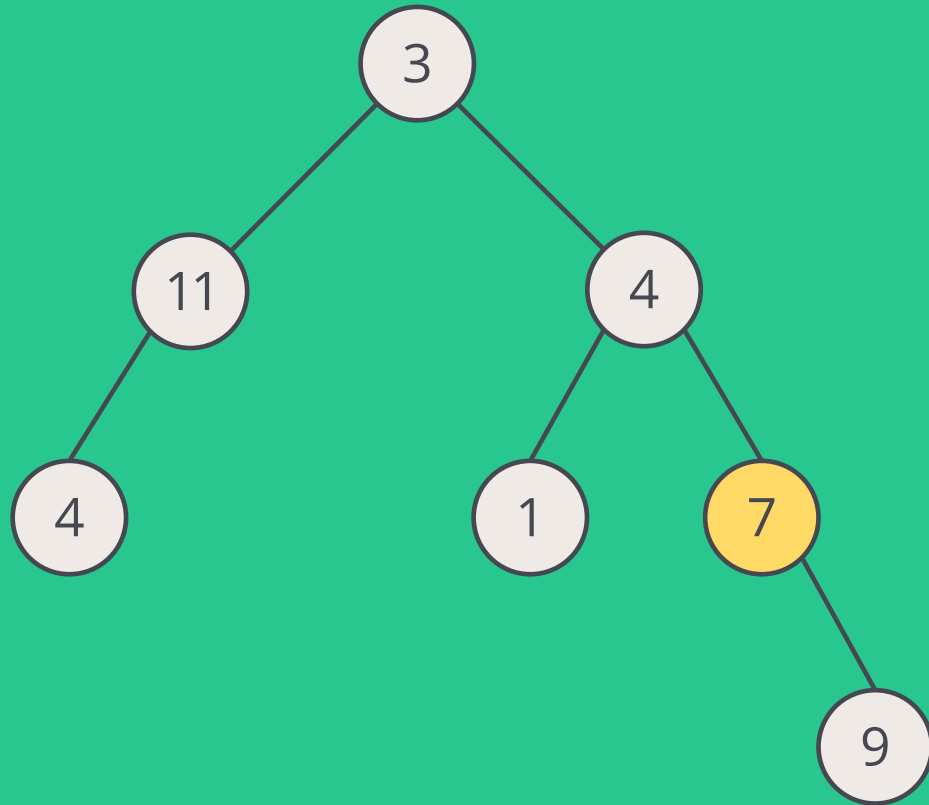


nodes_count_per_level = 1 + 1 + 1

sum_per_level = 4 + 1 + 7

Average of Levels in Binary Tree

.....



Adding **right child**

Queue



Averages



node

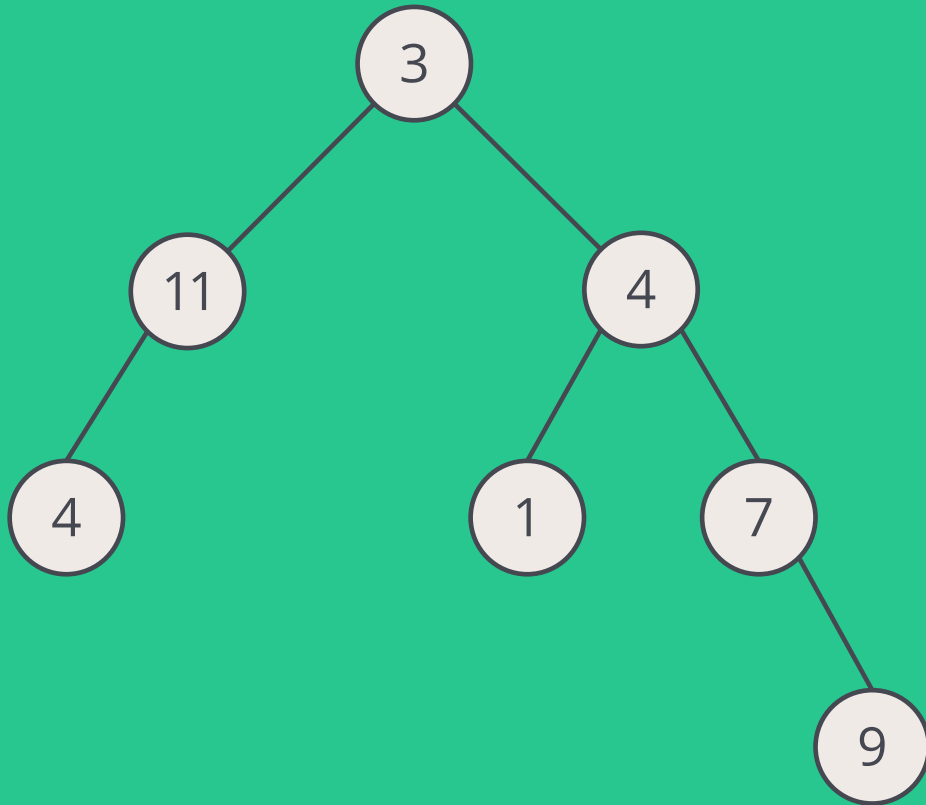


nodes_count_per_level = 1 + 1 + 1

sum_per_level = 4 + 1 + 7

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

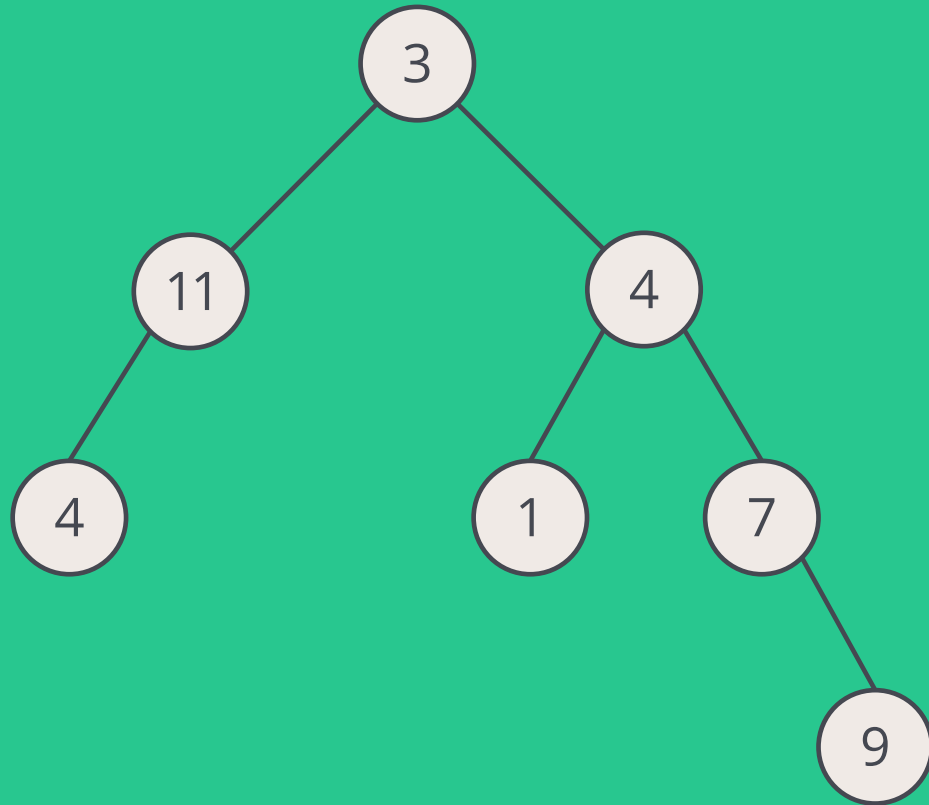
Queue	9					
Averages	3	7.5				
node	∅					

nodes_count_per_level = 1 + 1 + 1

sum_per_level = 4 + 1 + 7

Average of Levels in Binary Tree

.....



Null node $\Rightarrow$ End of level

Queue



Averages



node

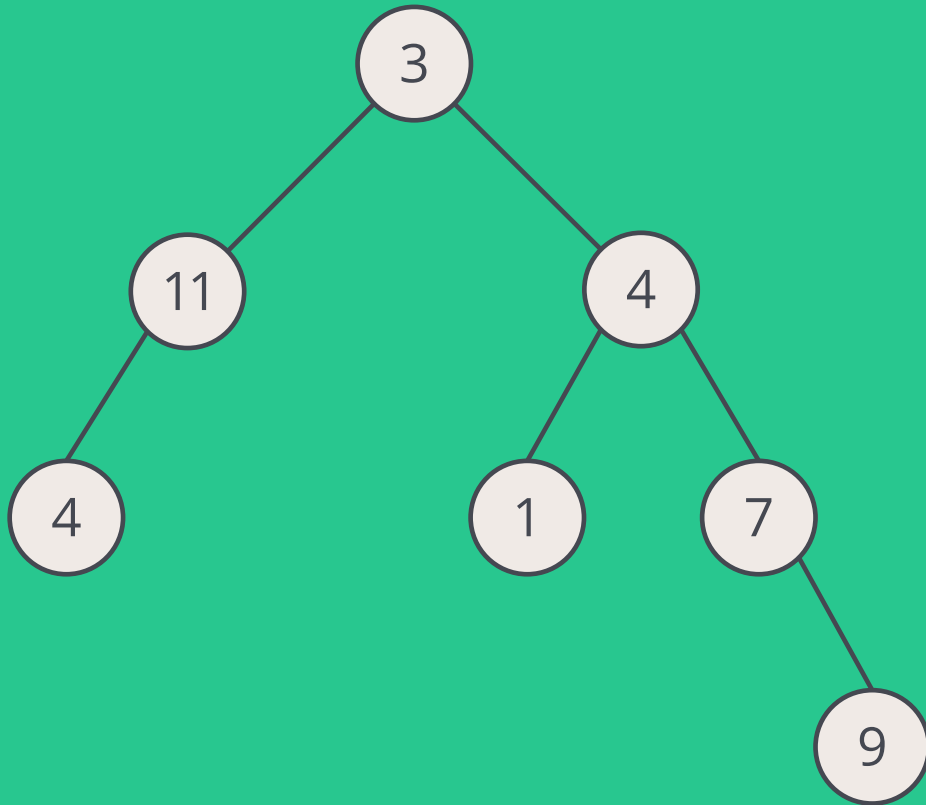


nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....



Null node $\Rightarrow$ End of level & first node is not Null

Queue

9	$\emptyset$					
---	-------------	--	--	--	--	--

Averages

3	7.5	4				
---	-----	---	--	--	--	--

node

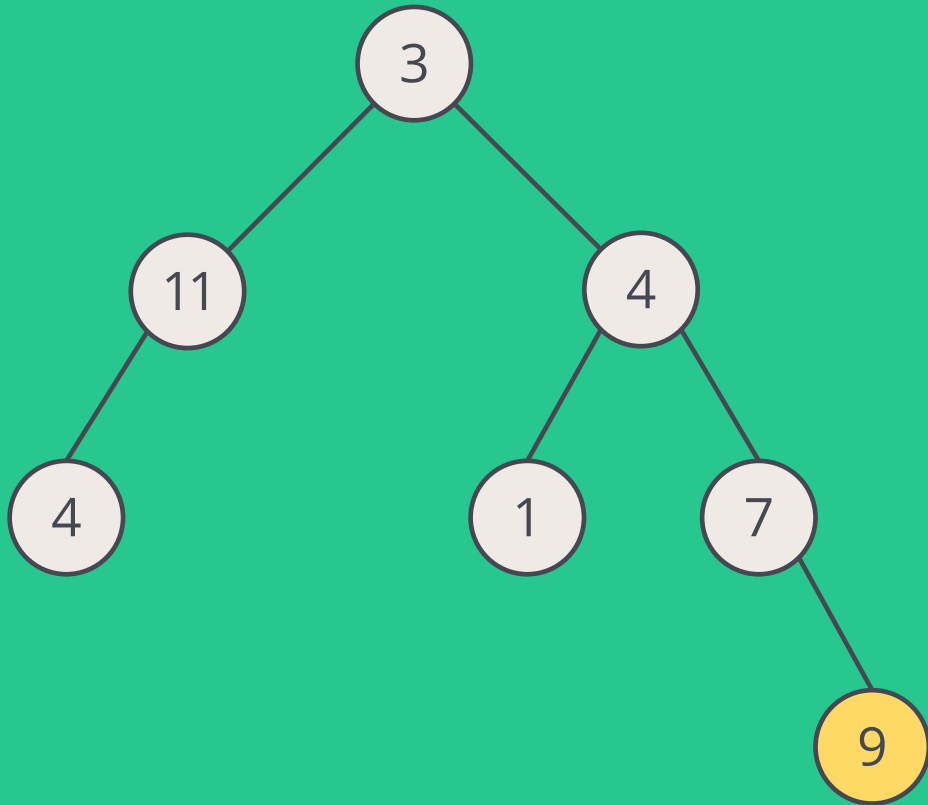
$\emptyset$

nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

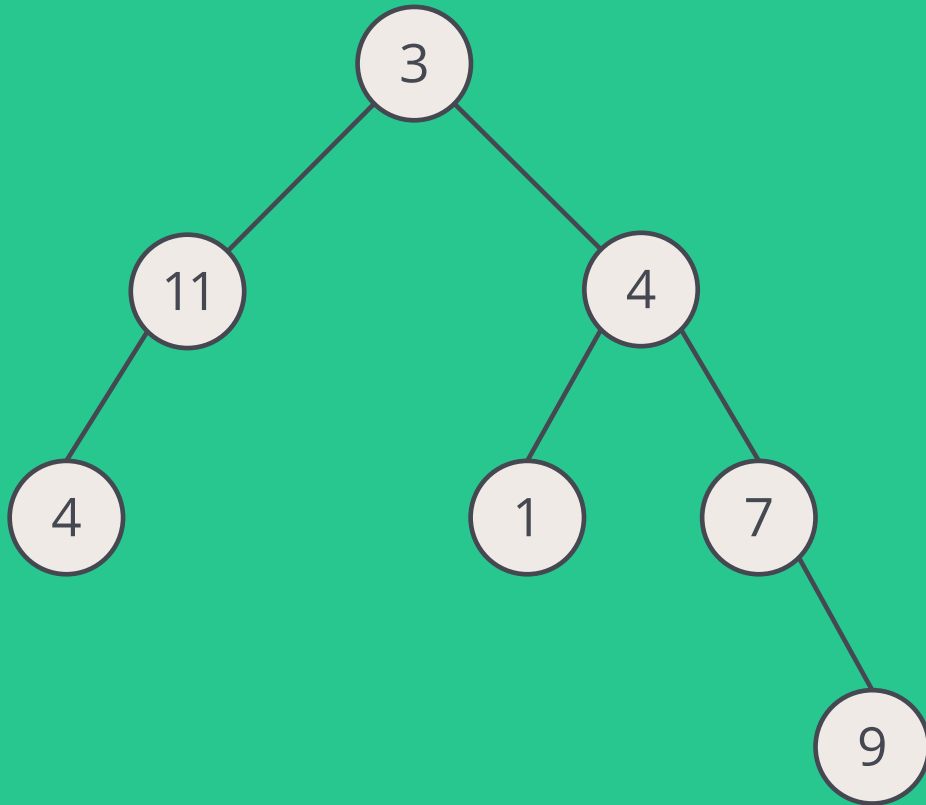
Queue	∅					
Averages	3	7.5	4			
node	9					

nodes_count_per_level = 1

sum_per_level = 9

Average of Levels in Binary Tree

.....



Loop - Picking up a **node** from the Queue

Queue



Averages



node

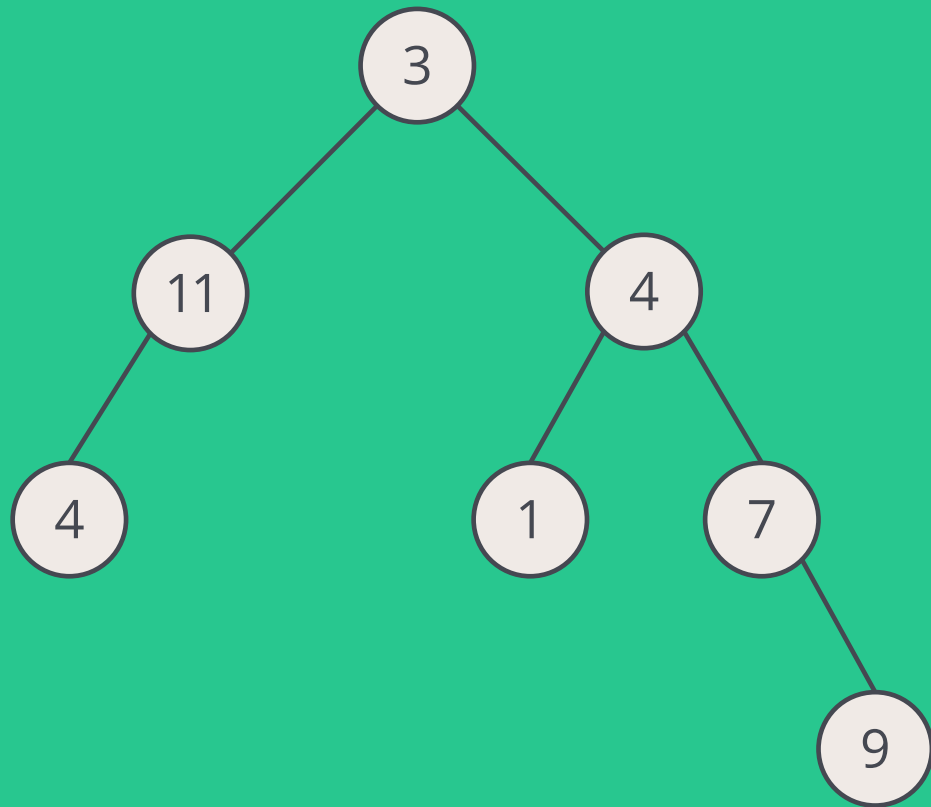


nodes_count_per_level = 1

sum_per_level = 9

Average of Levels in Binary Tree

.....

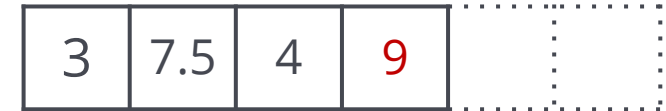


Null node $\Rightarrow$ End of level

Queue



Averages



node

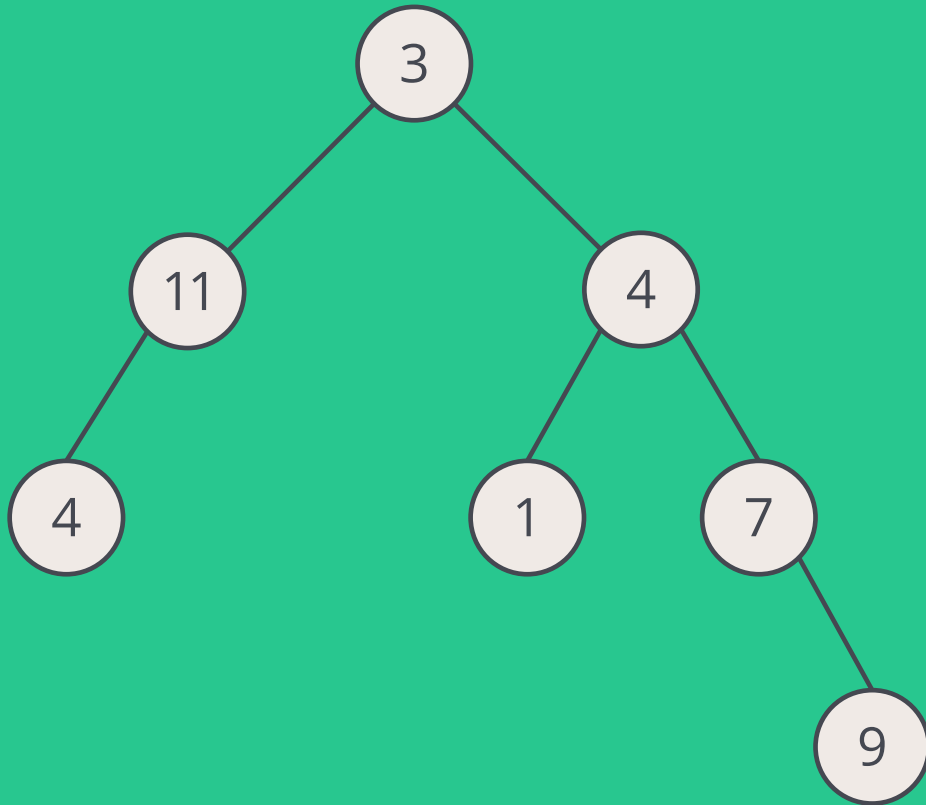


nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....

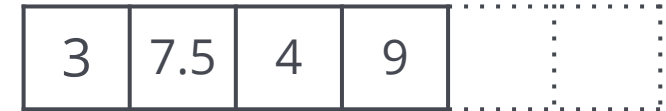


Null node $\Rightarrow$ End of level & first node is Null

Queue



Averages



node



nodes_count_per_level = 0

sum_per_level = 0

Average of Levels in Binary Tree

.....

