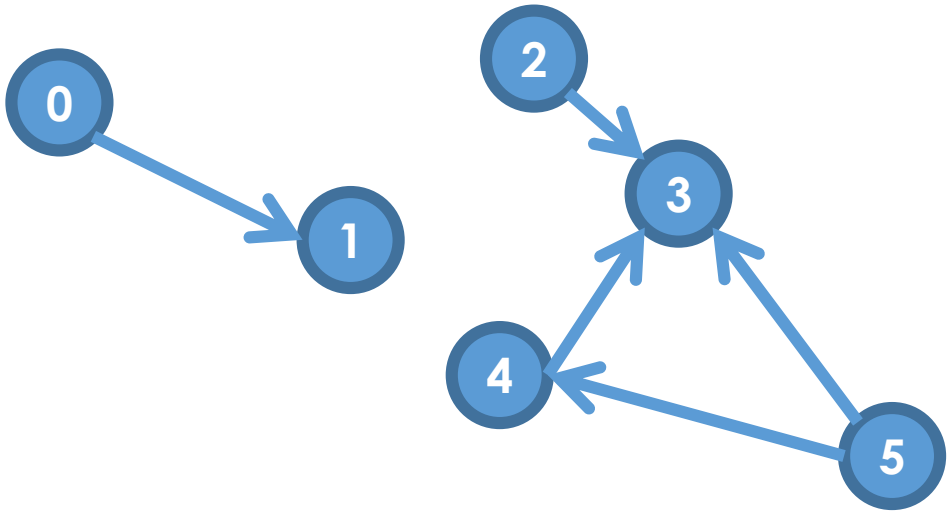
Graphs

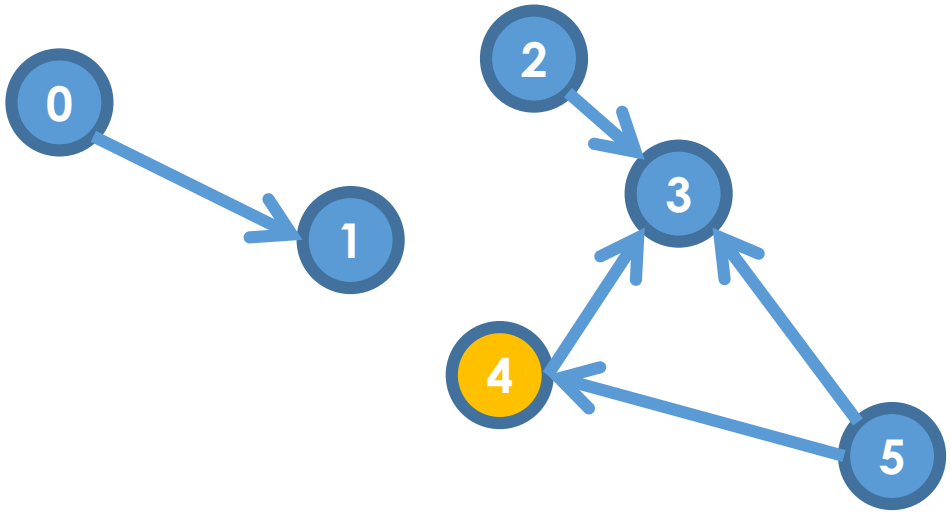
Representation: Finding neighbors

By the end of this video you will be able to…

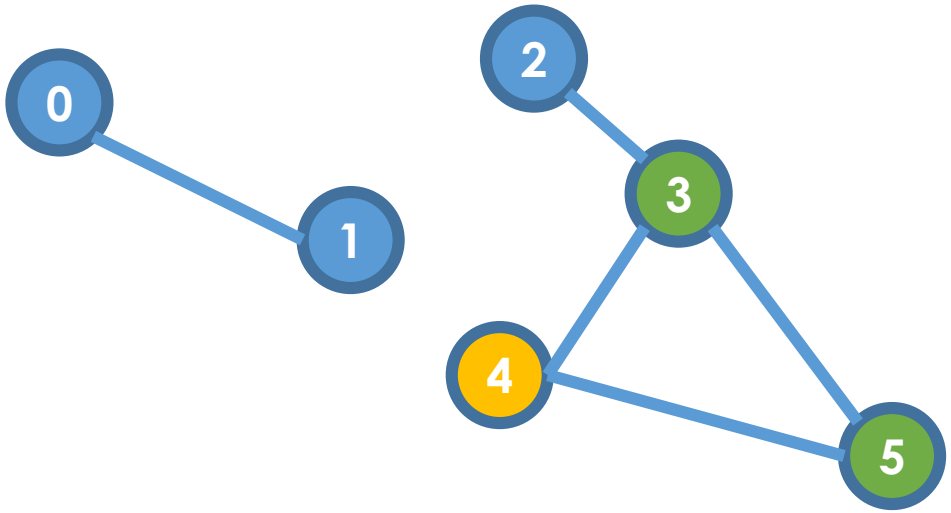
- Implement a method to find the neighbors of a vertex in two ways.
- Evaluate the performance of this method based on the representation.



Neighbors:
vertices that are adjacent.



Neighbors:
vertices that are adjacent.



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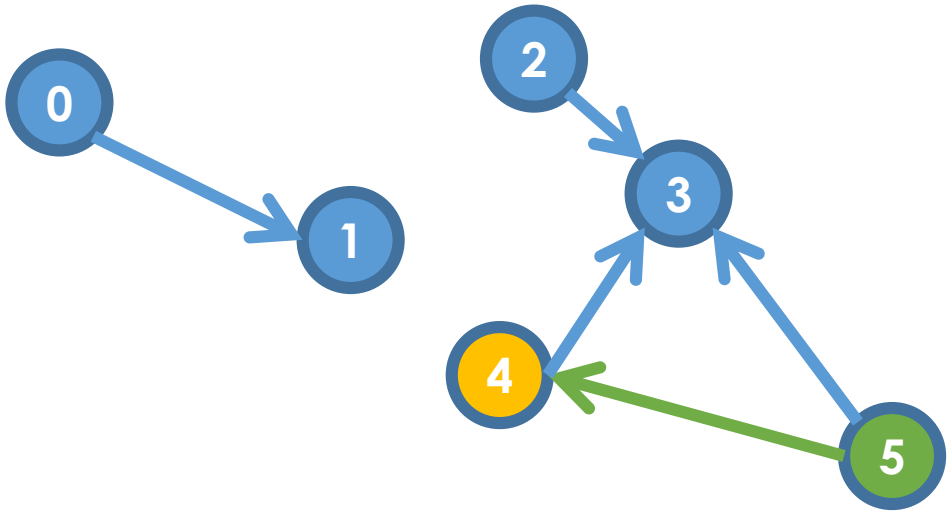
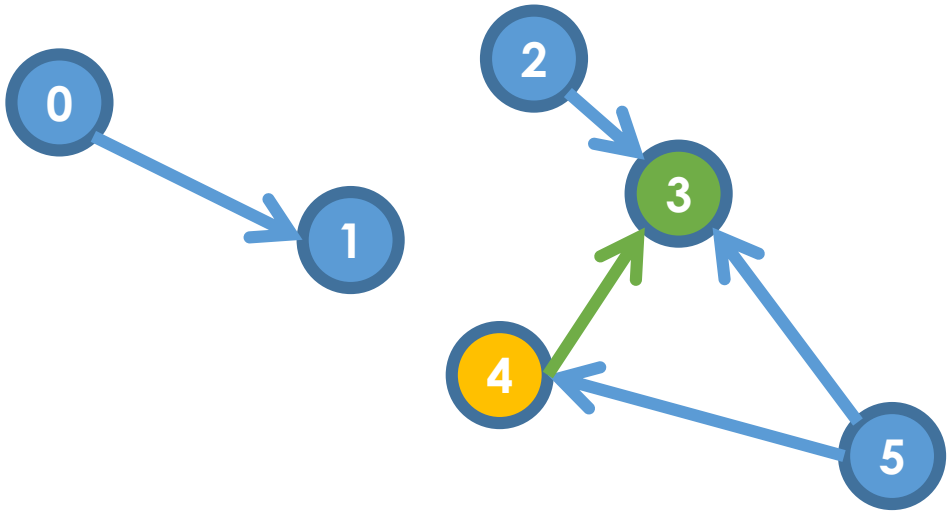


In degree:
number of incoming edges.



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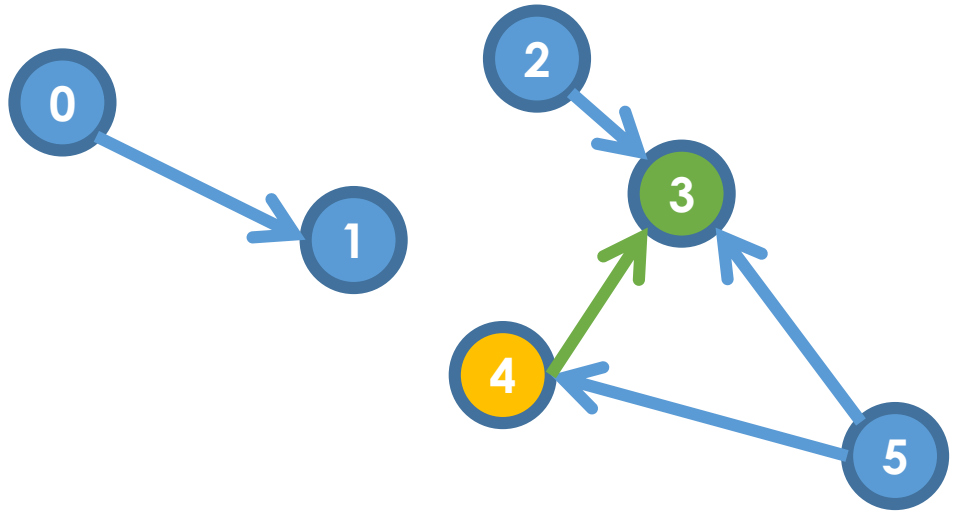
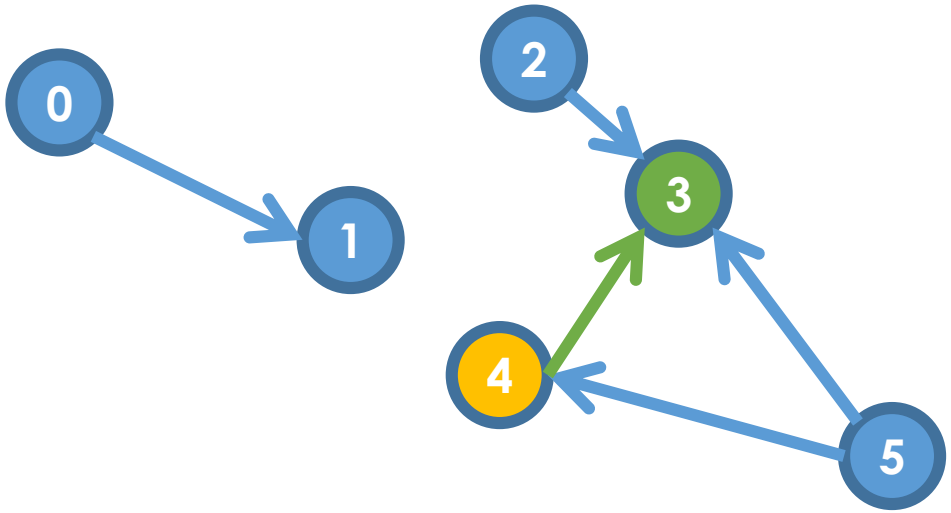
number of outgoing edges.



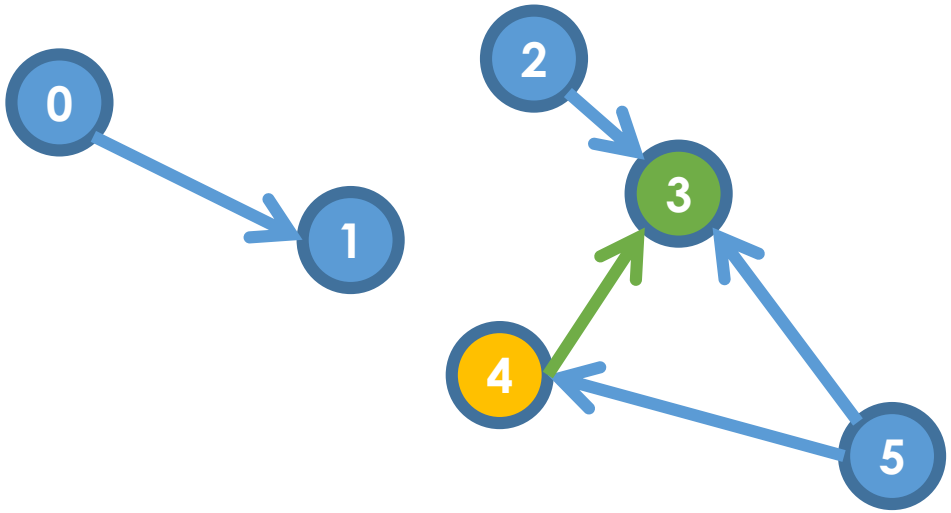
Out degree:
number of outgoing edges.

	0	1	0	0	0	0
	0	0	0	0	0	0
	0	0	0	1	0	0
	0	0	0	0	0	0
4	0	0	0	1	0	0
	0	0	0	1	1	0



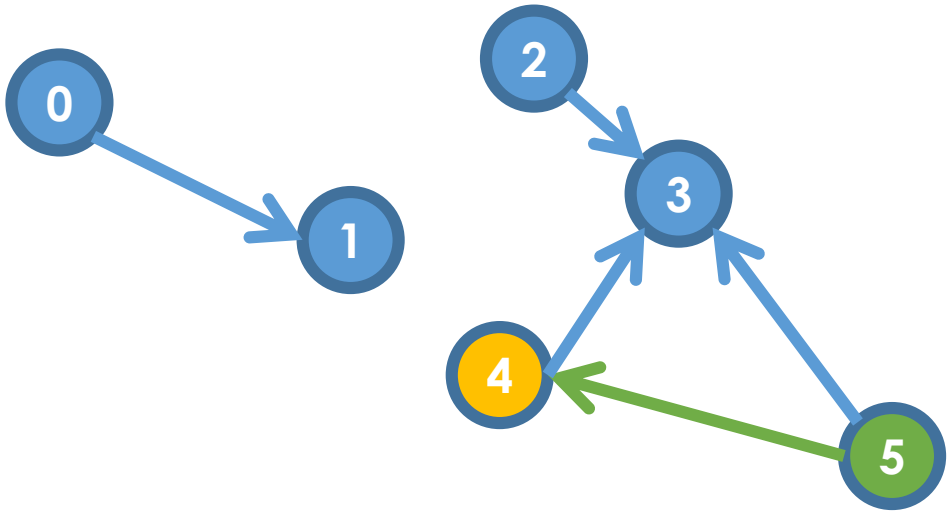
Out degree:
number of outgoing edges.

- 0 → {1}
- 1 → null
- 2 → {3}
- 3 → null
- 4 → {3}
- 5 → {3,4}



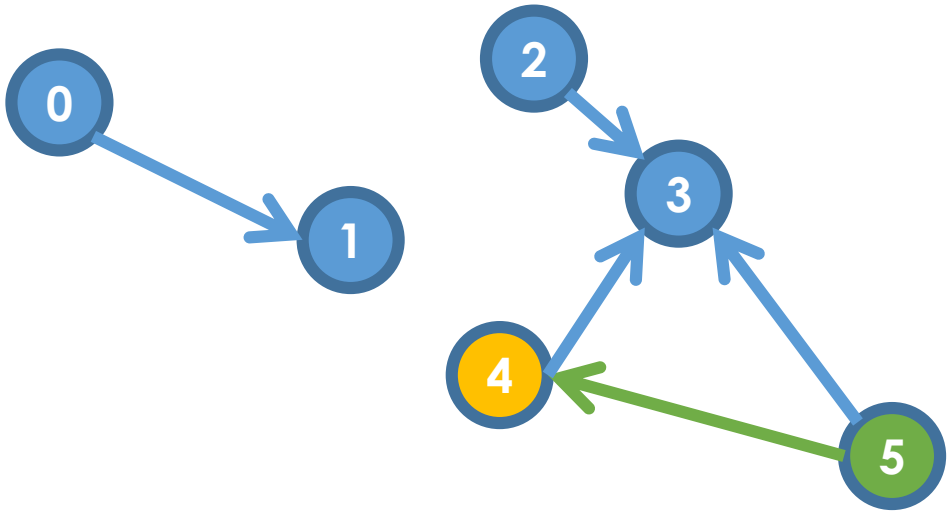
Out degree:
number of outgoing edges.

IVQ: Which implementation makes finding the out degree more efficient?



In degree:
number of incoming edges.

0	1	0	0	0	0
0	0	0	0	0	0
0	0	0	1	0	0
0	0	0	0	0	0
0	0	0	1	0	0
0	0	0	1	1	0



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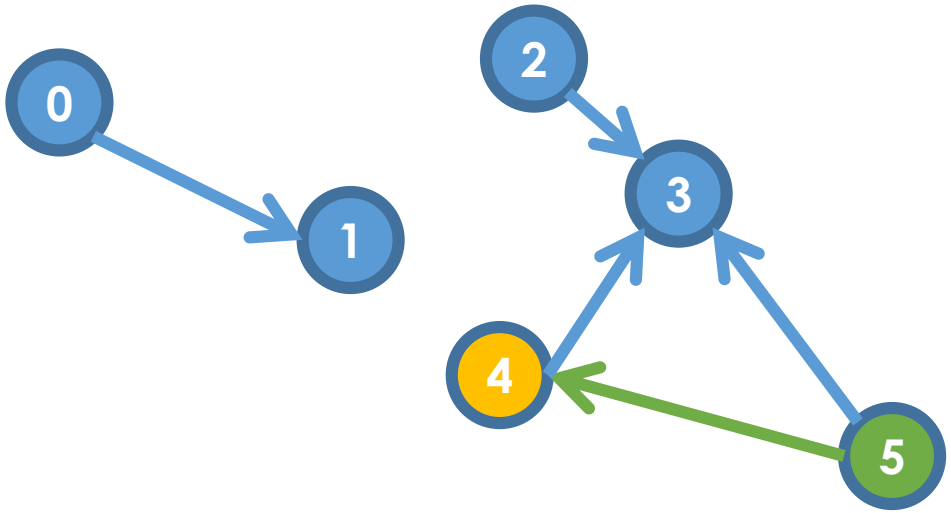

In degree:
number of incoming edges.

IVQ: Which implementation makes finding the in degree more efficient?

What's next?