



<http://algs4.cs.princeton.edu>

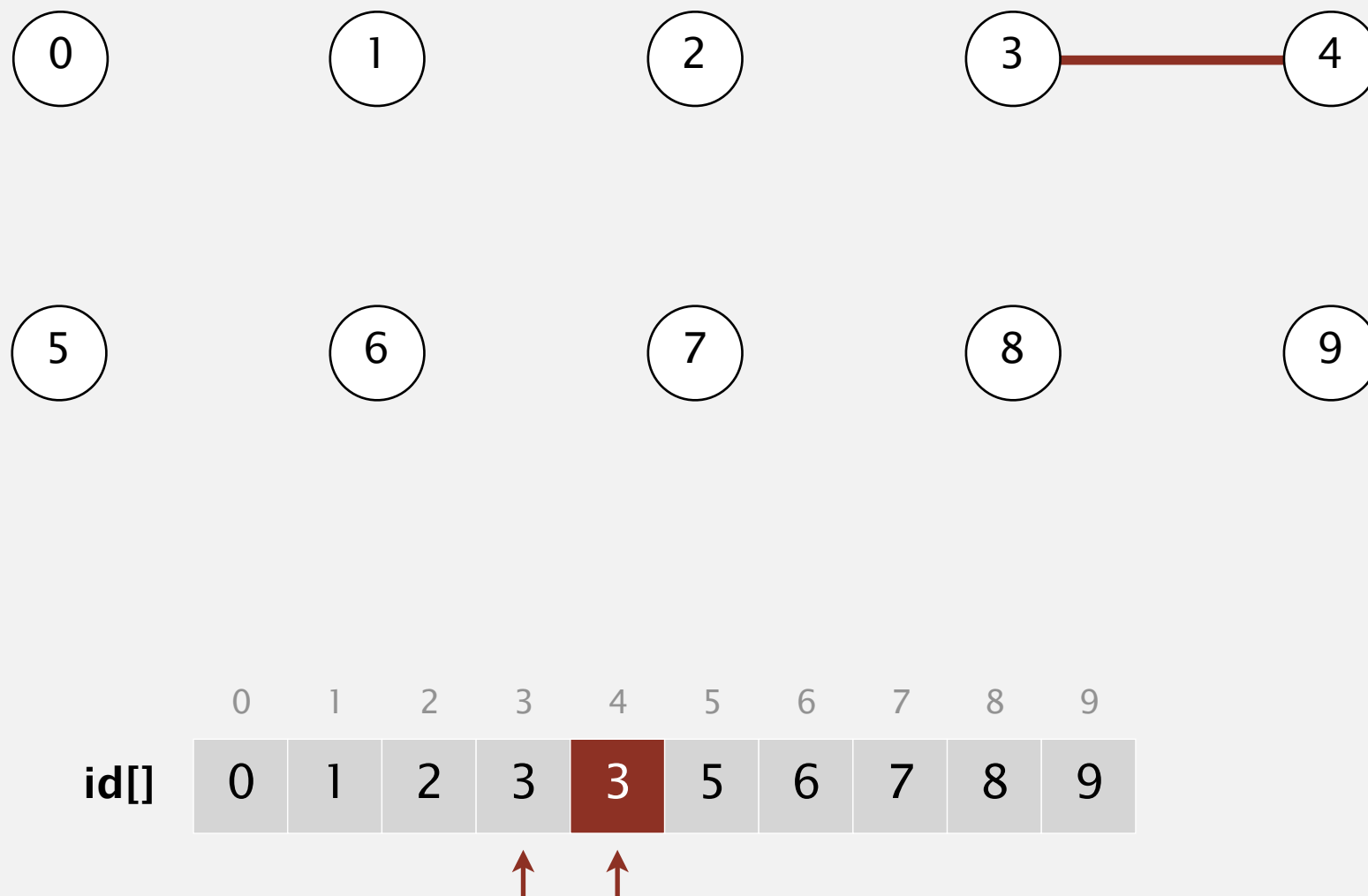
## 1.5 QUICK-FIND DEMO

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# Quick-find demo

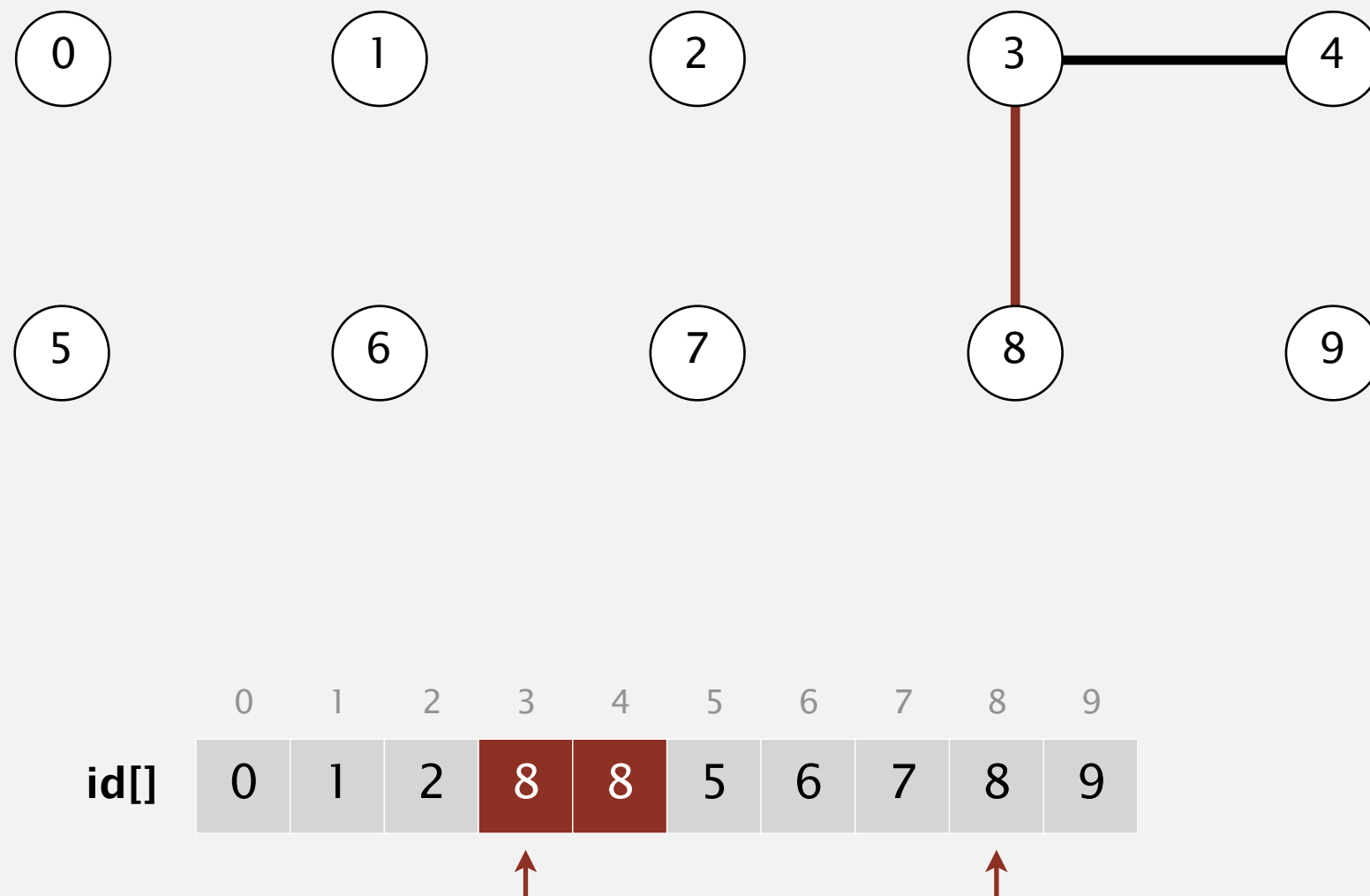
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**union(4, 3)**



## Quick-find demo

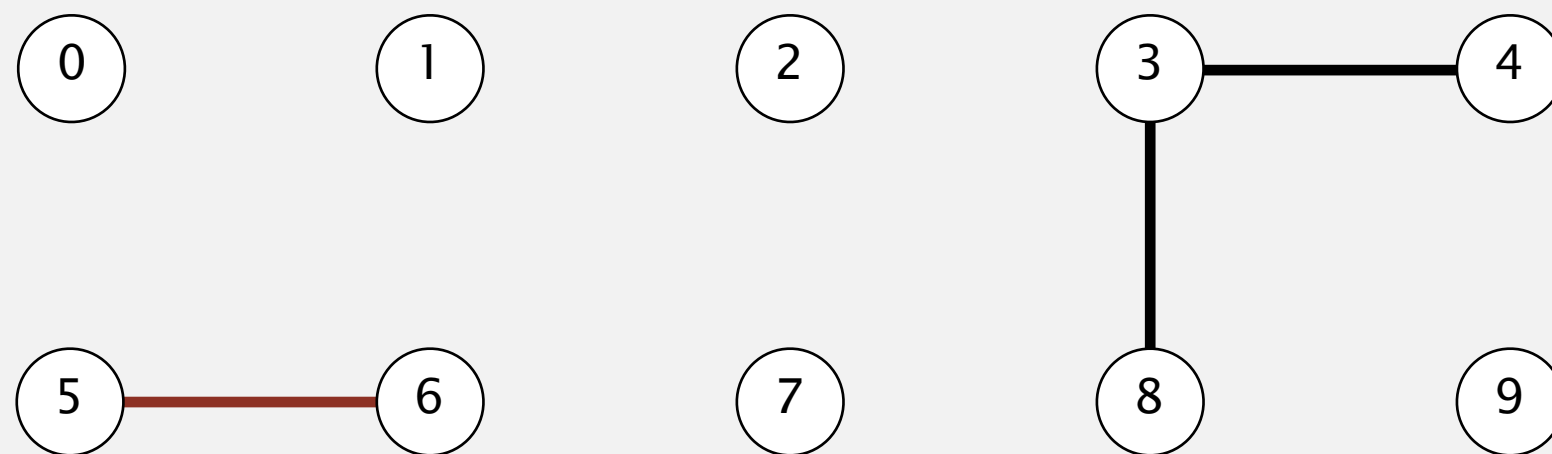
**union(3, 8)**



# Quick-find demo

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**union(6, 5)**



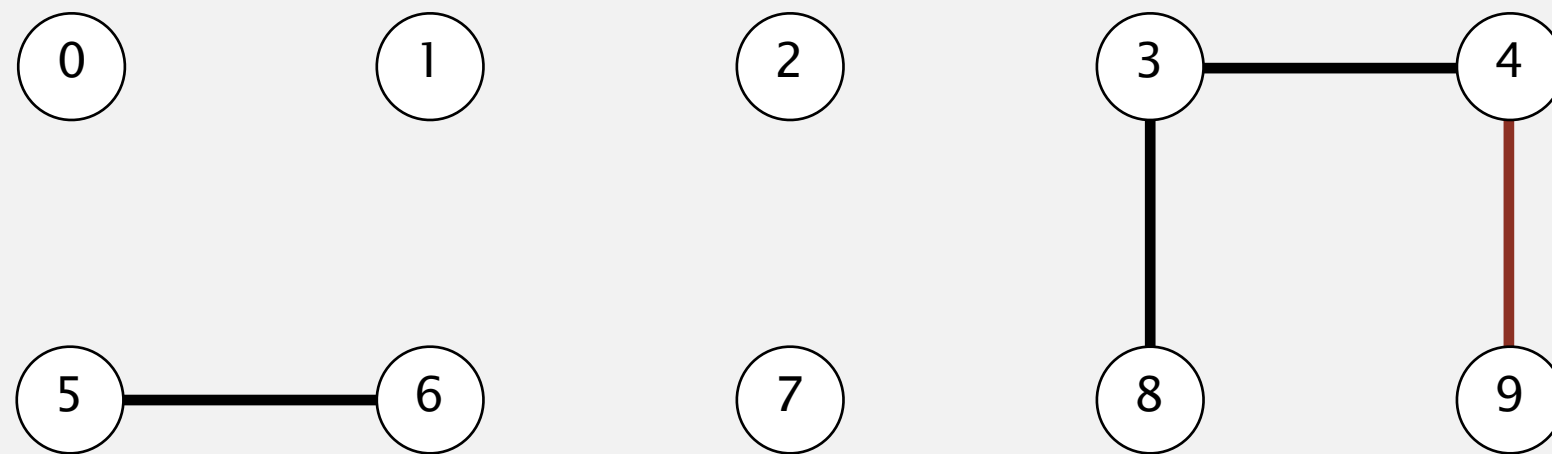
	0	1	2	3	4	5	6	7	8	9
id[]	0	1	2	8	8	5	5	7	8	9

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# Quick-find demo

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**union(9, 4)**



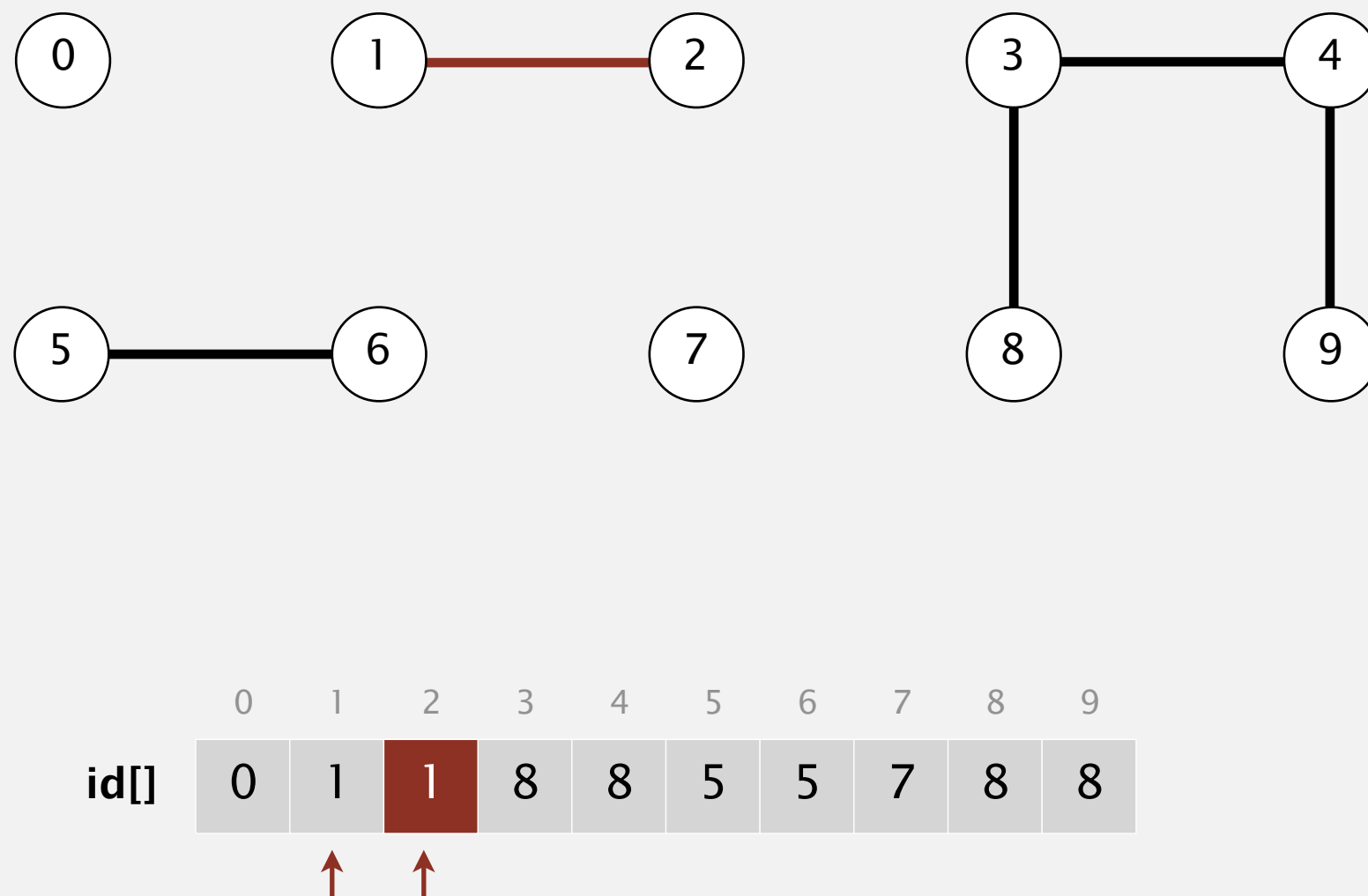
	0	1	2	3	4	5	6	7	8	9
id[]	0	1	2	8	8	5	5	7	8	8

Diagram illustrating the state of the `id[]` array. The array contains the following values: 0, 1, 2, 8, 8, 5, 5, 7, 8, 8. The value 8 is highlighted in red in the original image. Two red arrows point to the elements at index 4 and index 9, both of which contain the value 8.

# Quick-find demo

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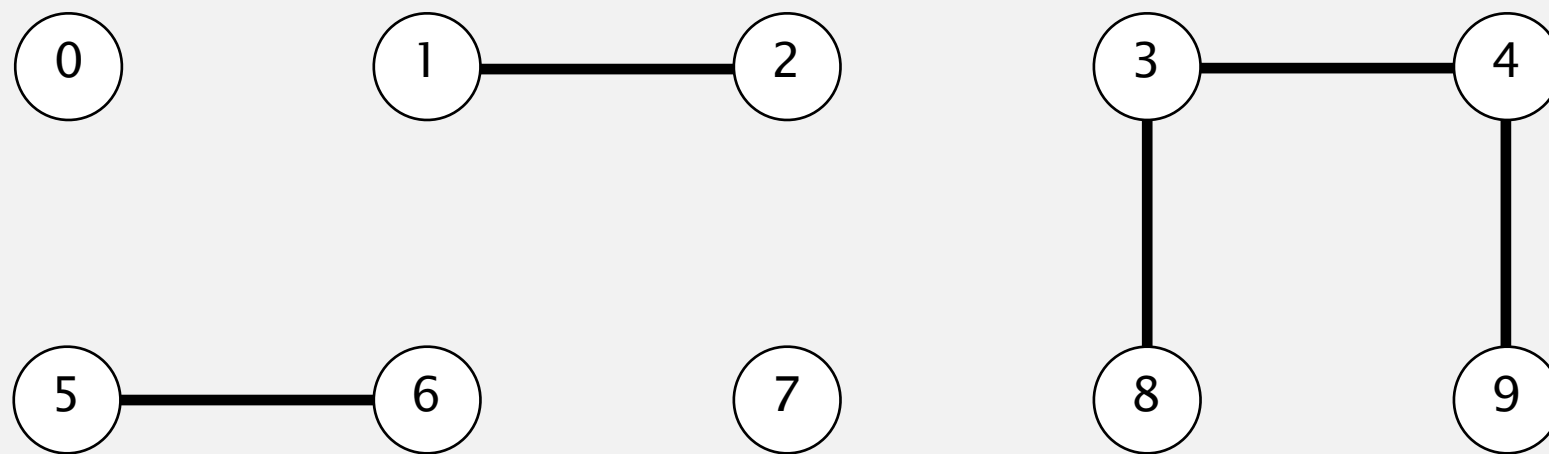
**union(2, 1)**



# Quick-find demo

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**connected(8, 9)**

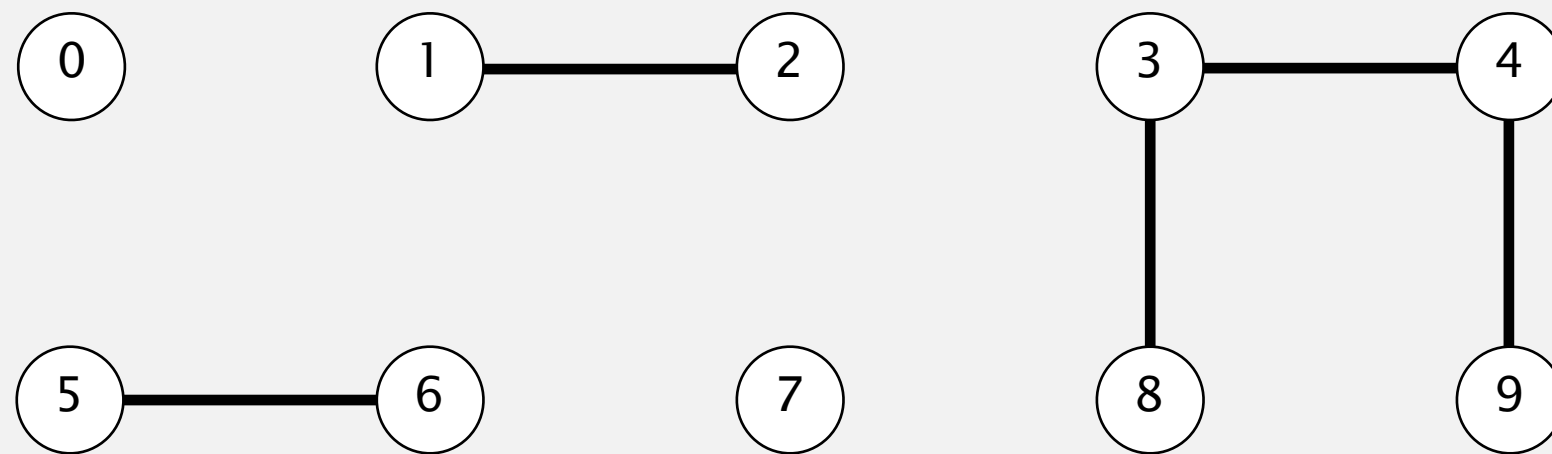


	0	1	2	3	4	5	6	7	8	9
id[]	0	1	1	8	8	5	5	7	8	8

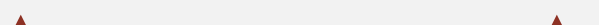
↑ ↑  
**already connected**

## Quick-find demo

**connected(5, 0)**



	0	1	2	3	4	5	6	7	8	9
id[]	0	1	1	8	8	5	5	7	8	8



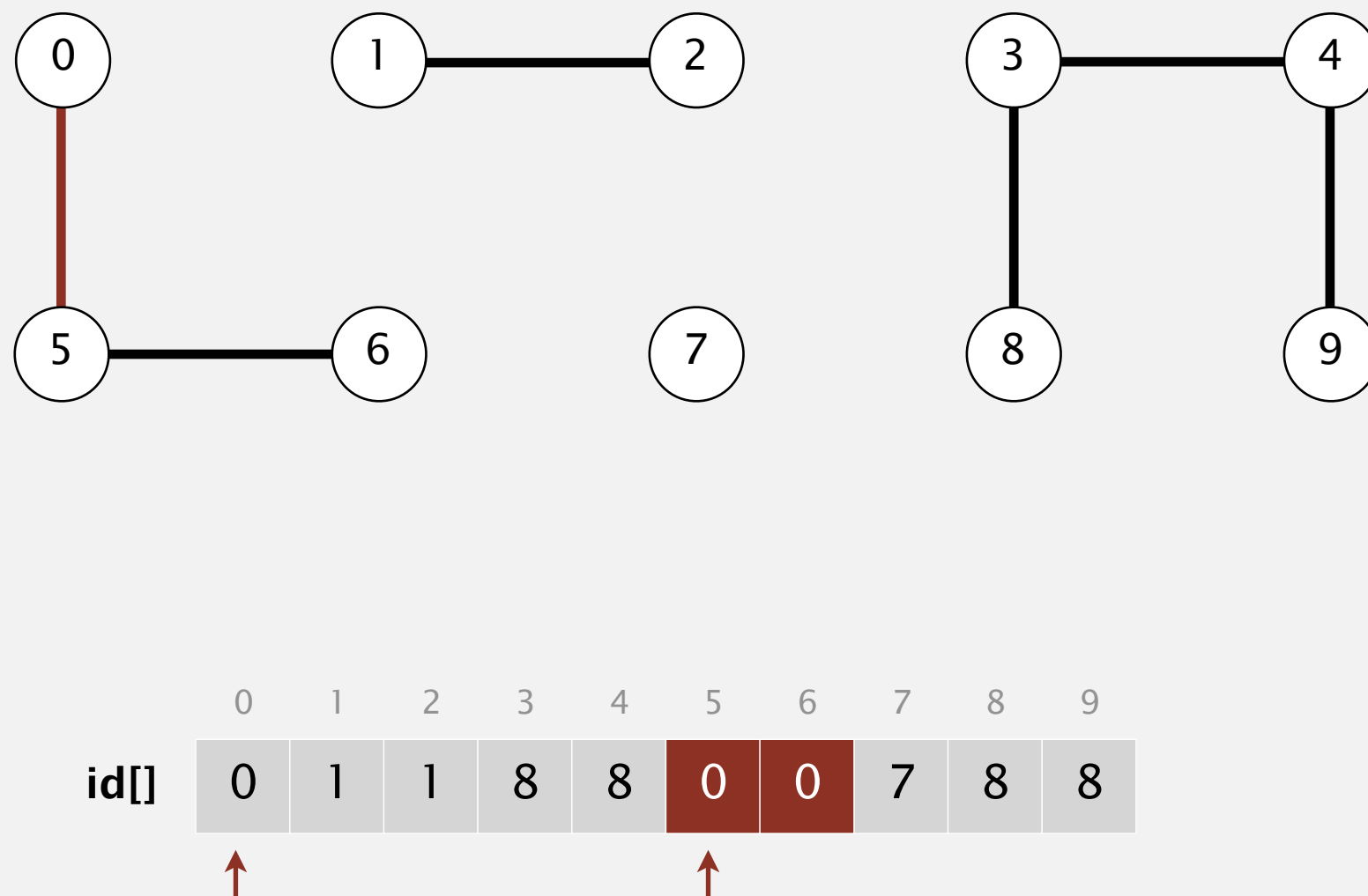
**not connected**



# Quick-find demo

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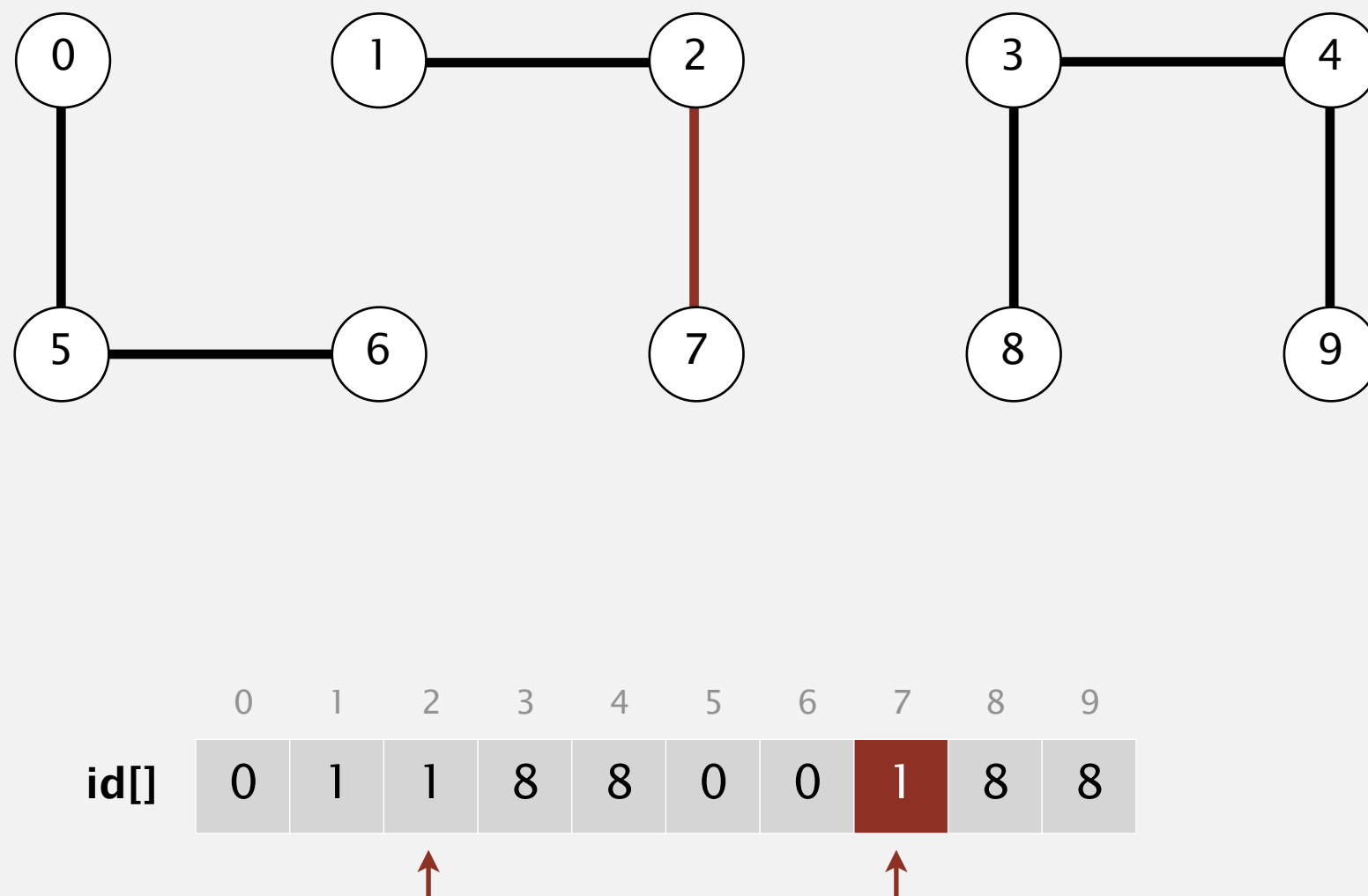
**union(5, 0)**



# Quick-find demo

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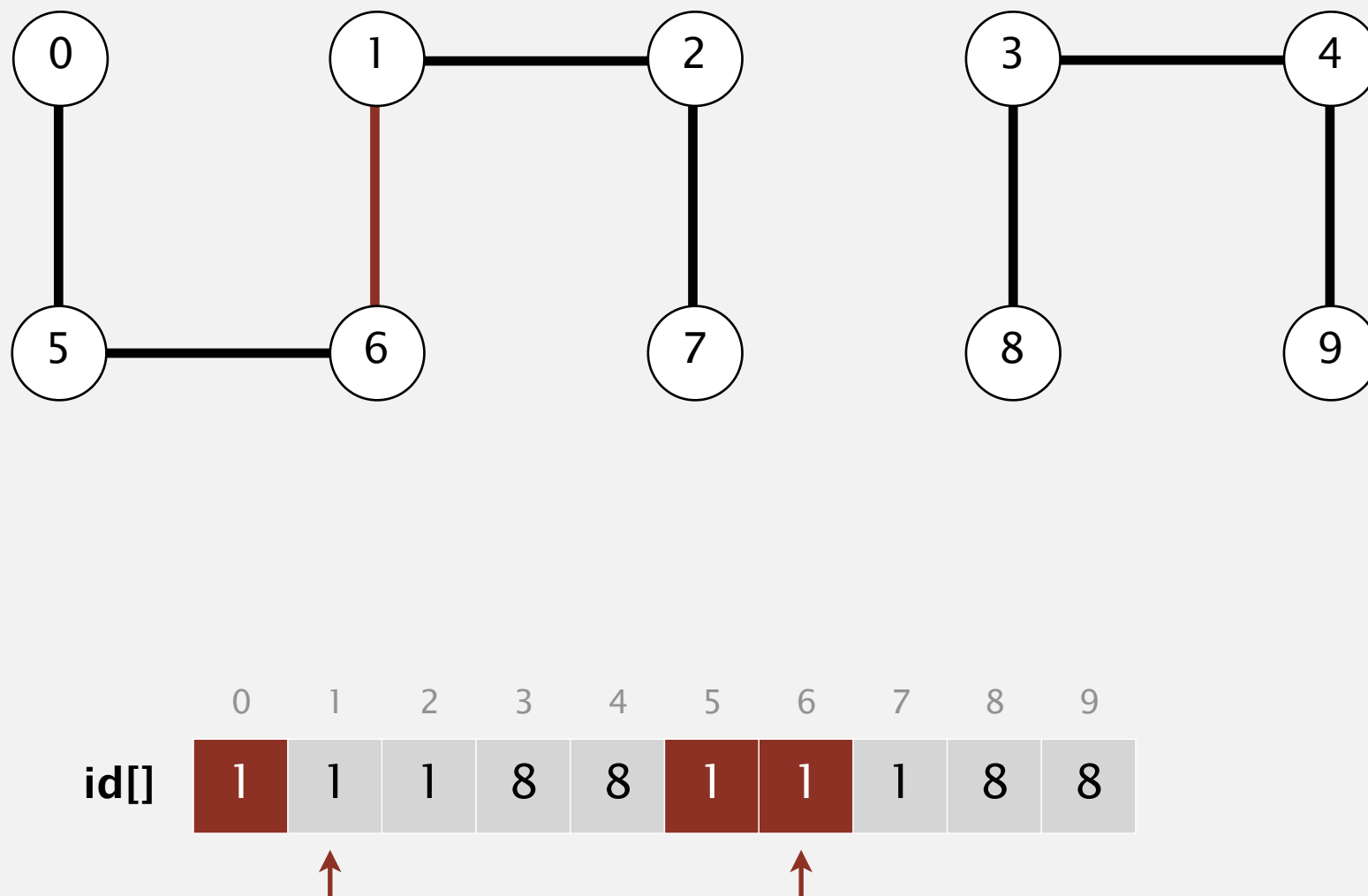
**union(7, 2)**



# Quick-find demo

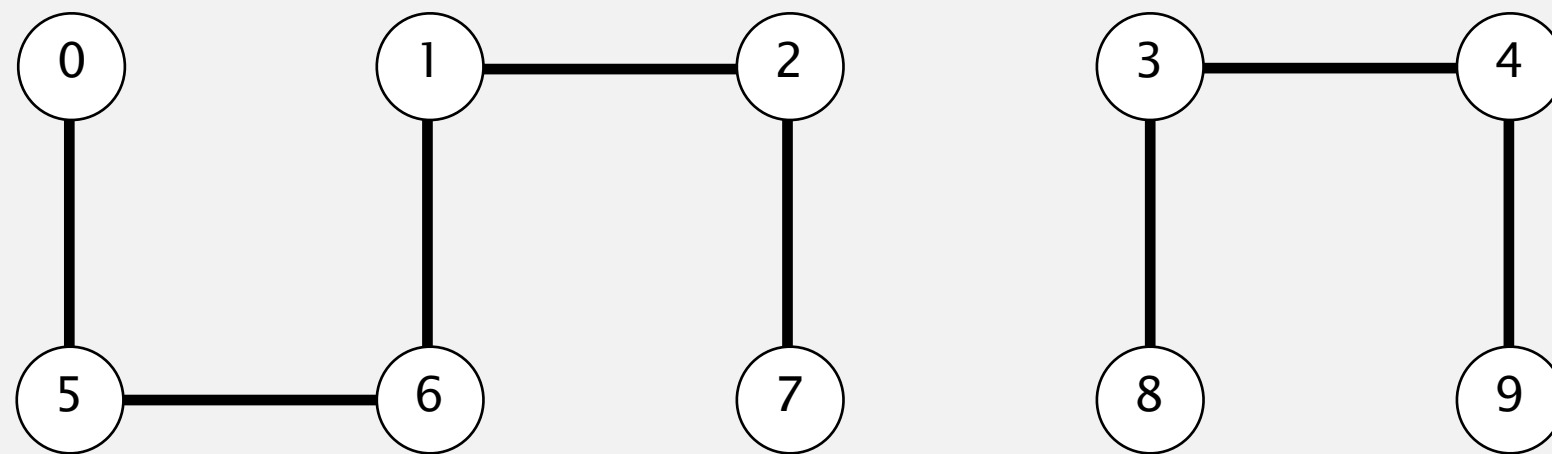
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**union(6, 1)**



# Quick-find demo

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	0	1	2	3	4	5	6	7	8	9
id[]	1	1	1	8	8	1	1	1	8	8