

## 4.3 GREEDY MST DEMO

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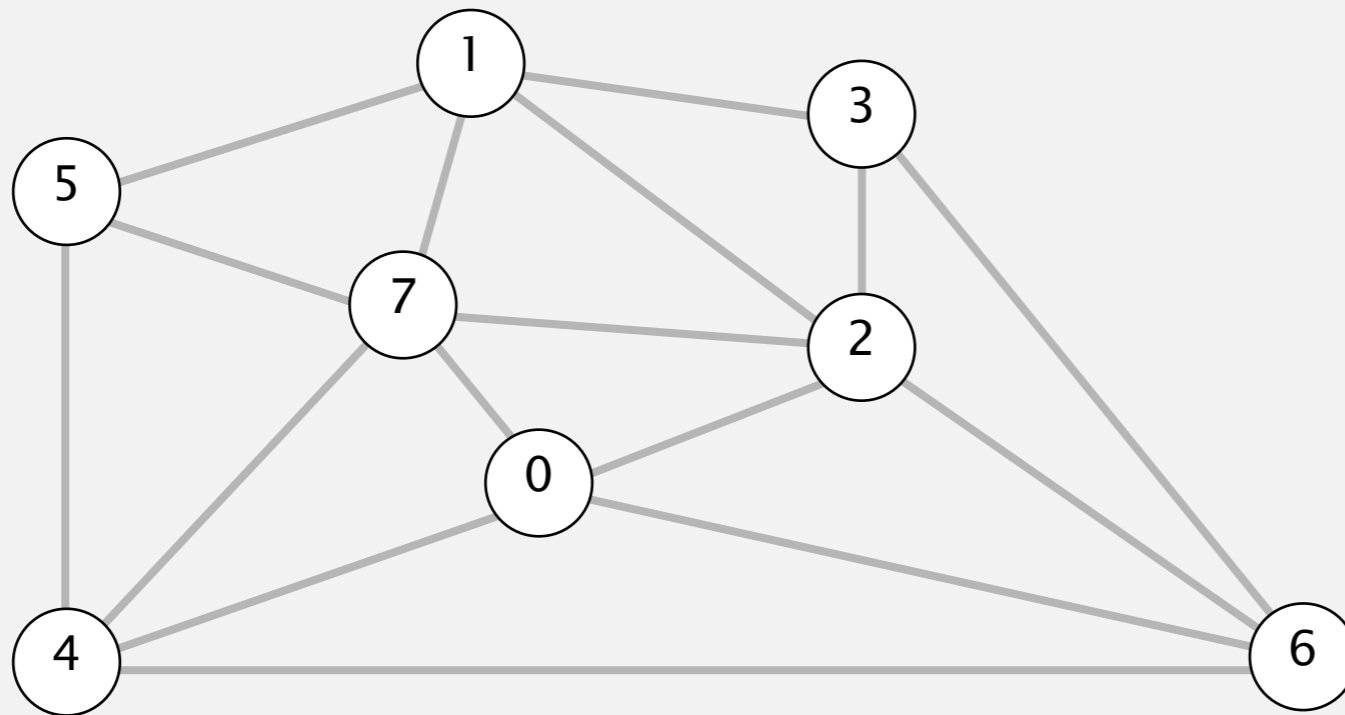


<http://algs4.cs.princeton.edu>

# Greedy MST algorithm demo

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- Start with all edges colored gray.
- Find cut with no black crossing edges; color its min-weight edge black.
- Repeat until  $V - 1$  edges are colored black.

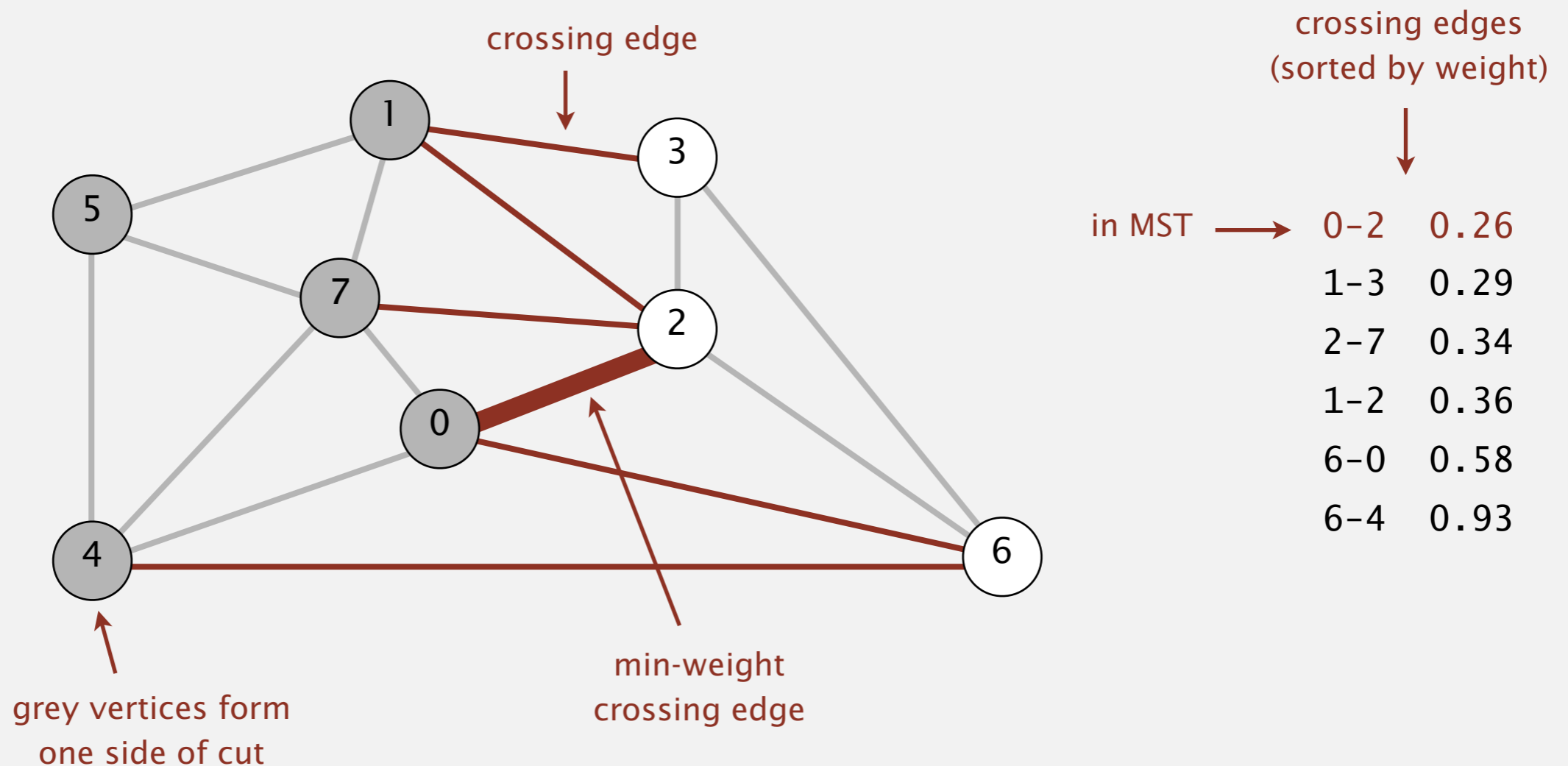


**an edge-weighted graph**

0-7	0.16
2-3	0.17
1-7	0.19
0-2	0.26
5-7	0.28
1-3	0.29
1-5	0.32
2-7	0.34
4-5	0.35
1-2	0.36
4-7	0.37
0-4	0.38
6-2	0.40
3-6	0.52
6-0	0.58
6-4	0.93

# Greedy MST algorithm demo

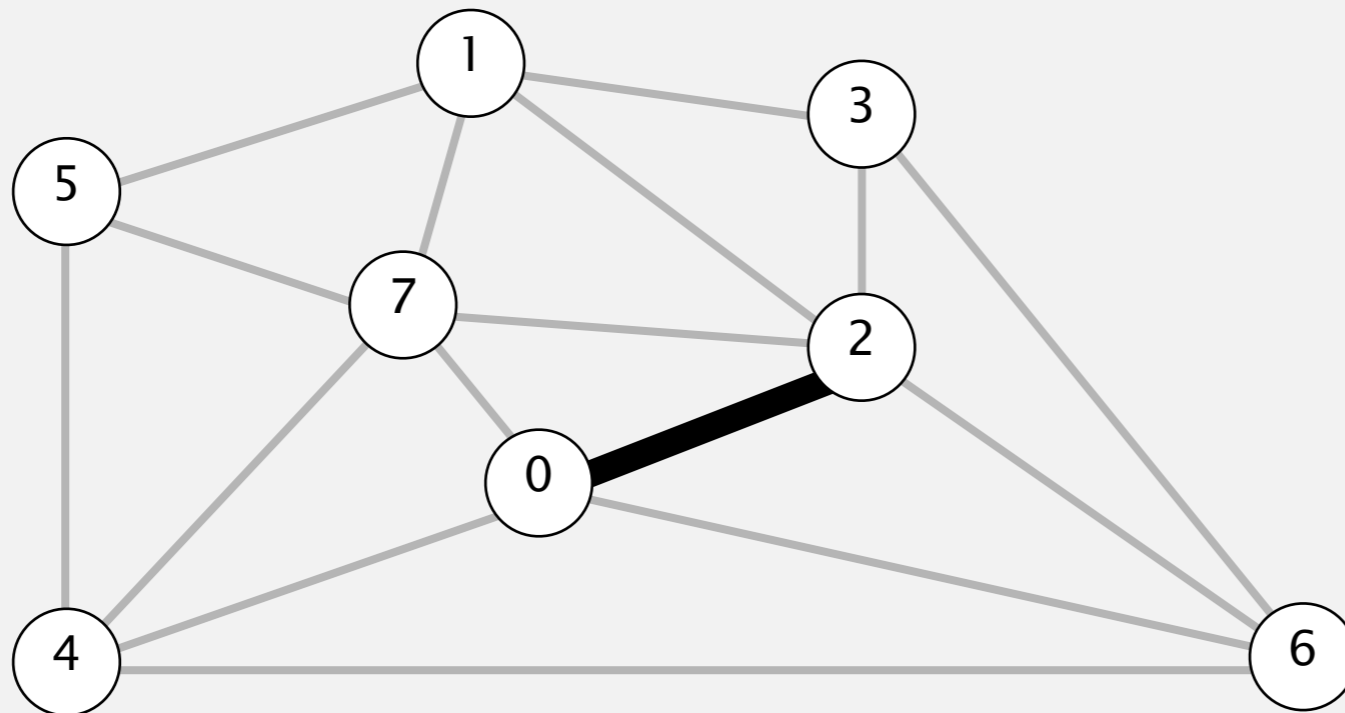
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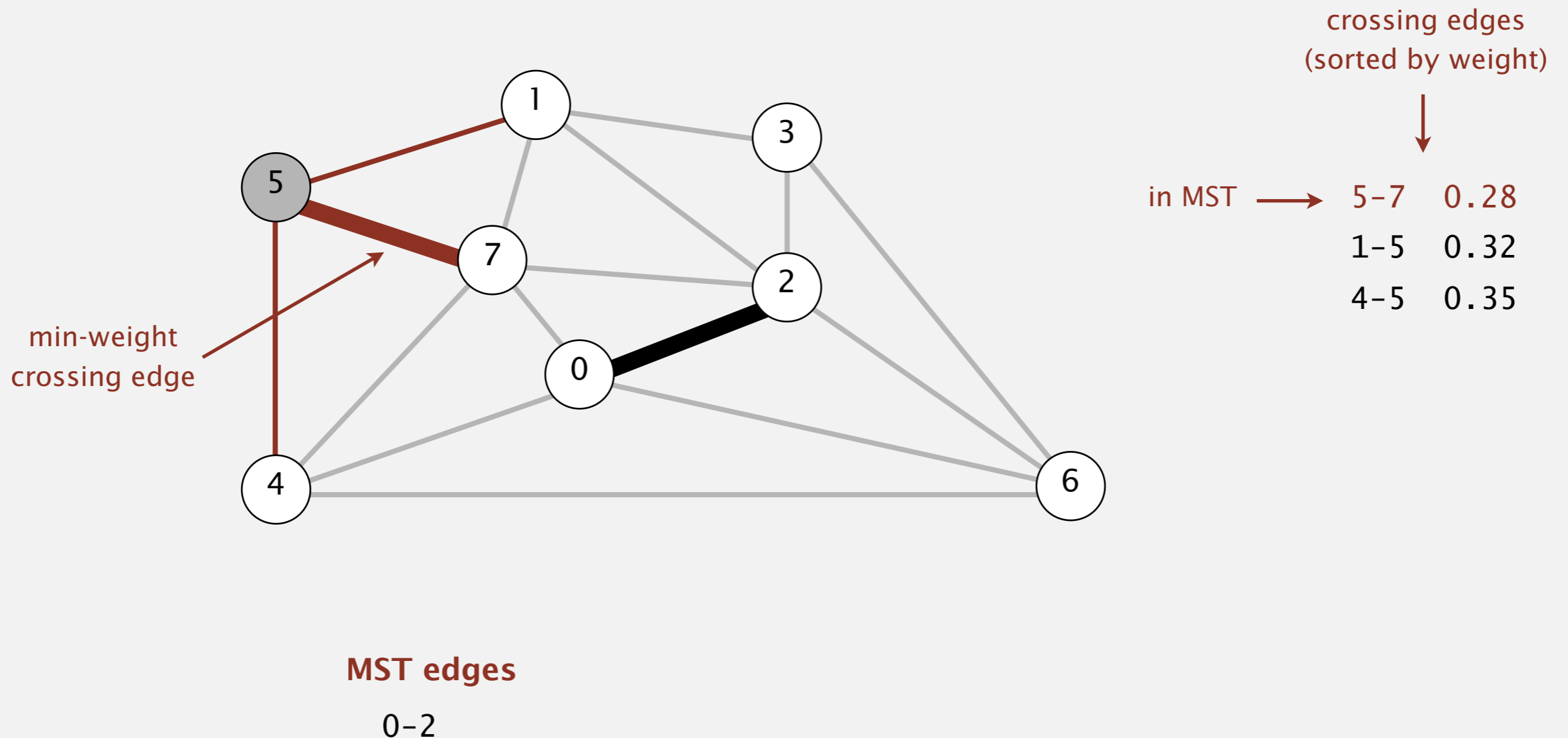


**MST edges**

0-2

# Greedy MST algorithm demo

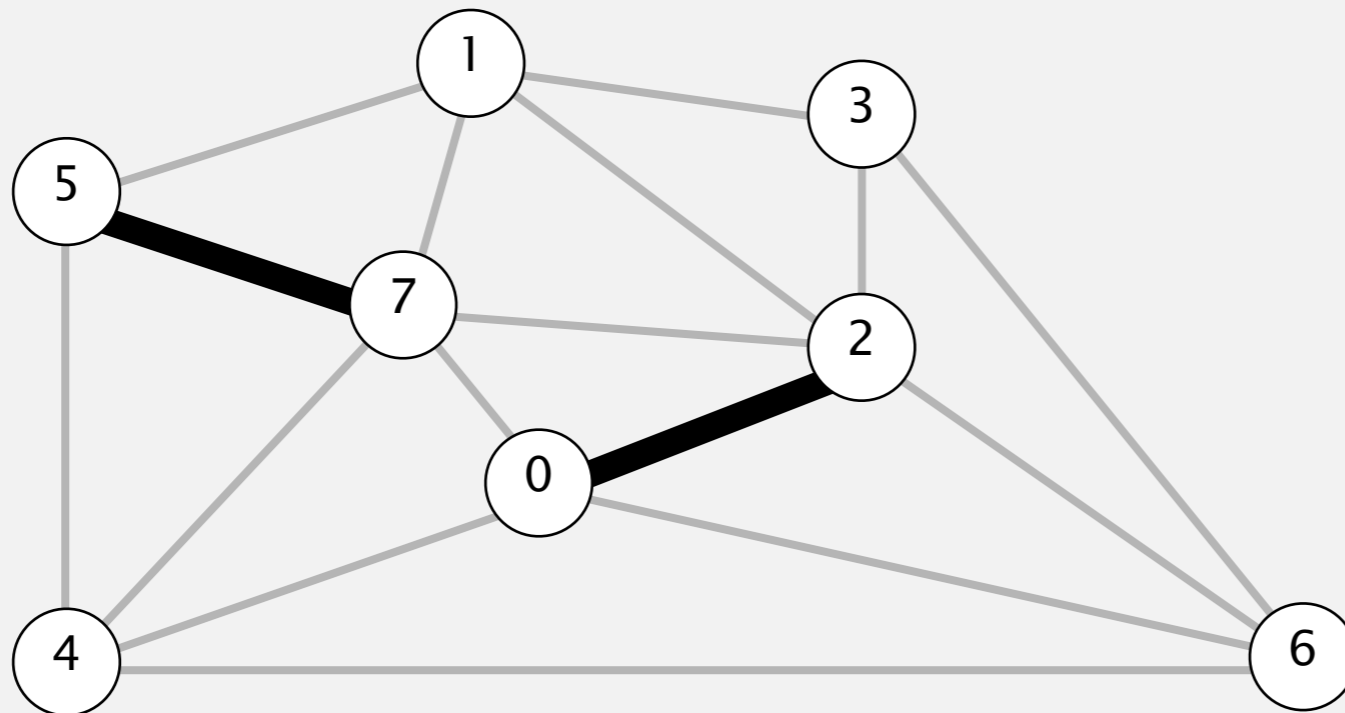
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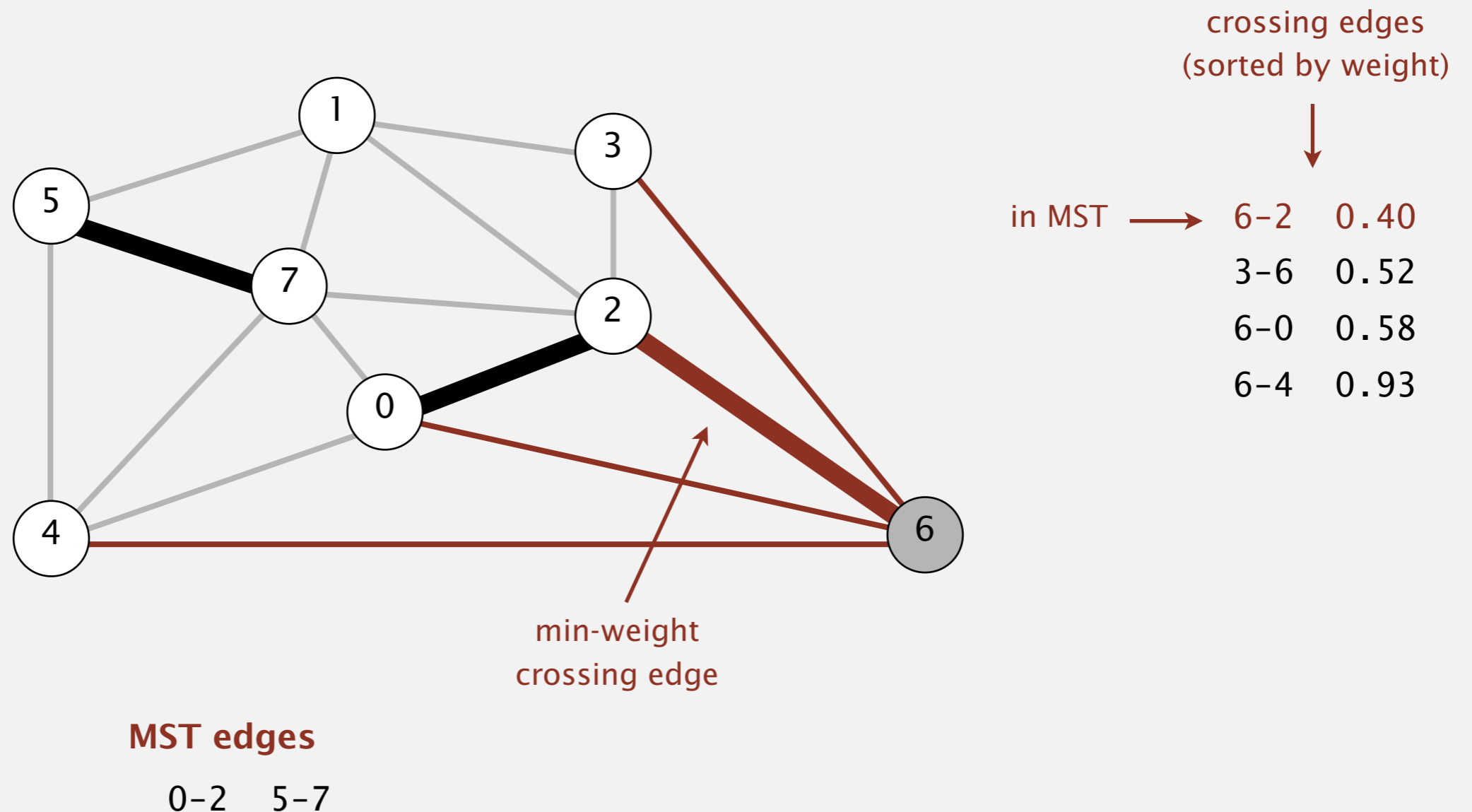


**MST edges**

0-2 5-7

# Greedy MST algorithm demo

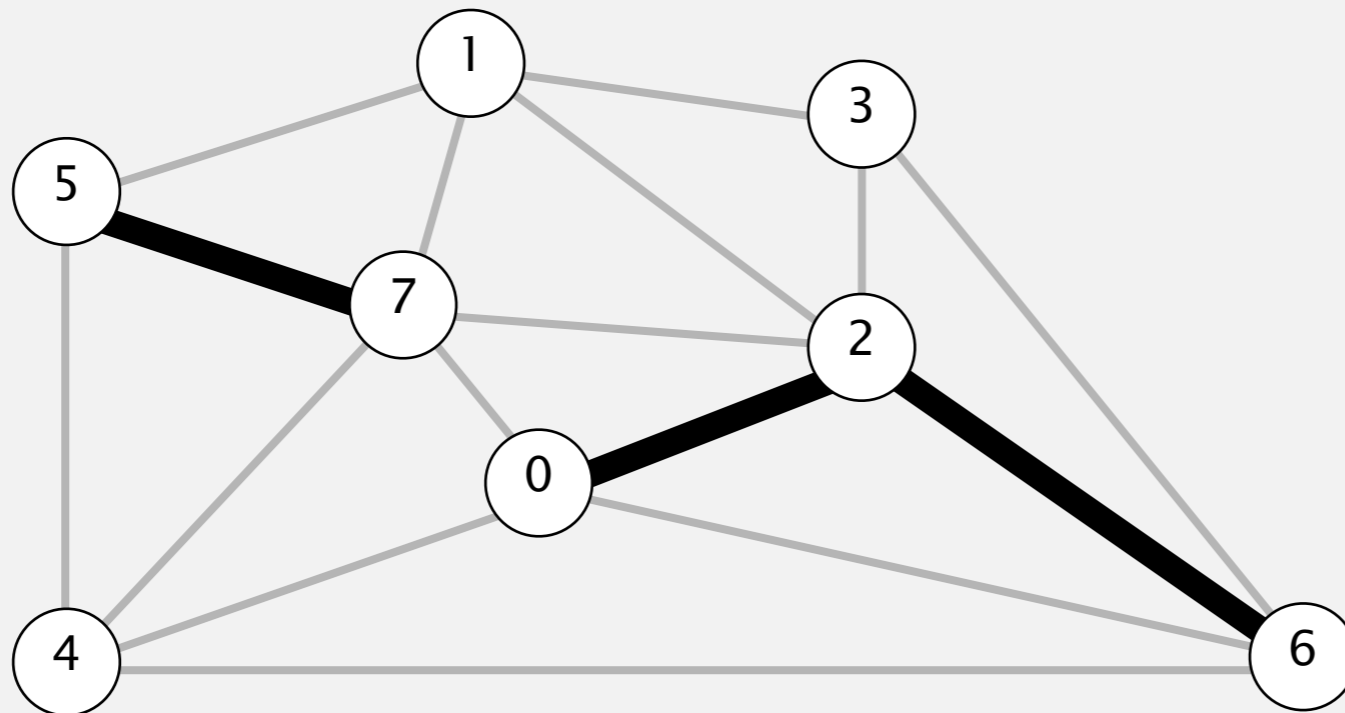
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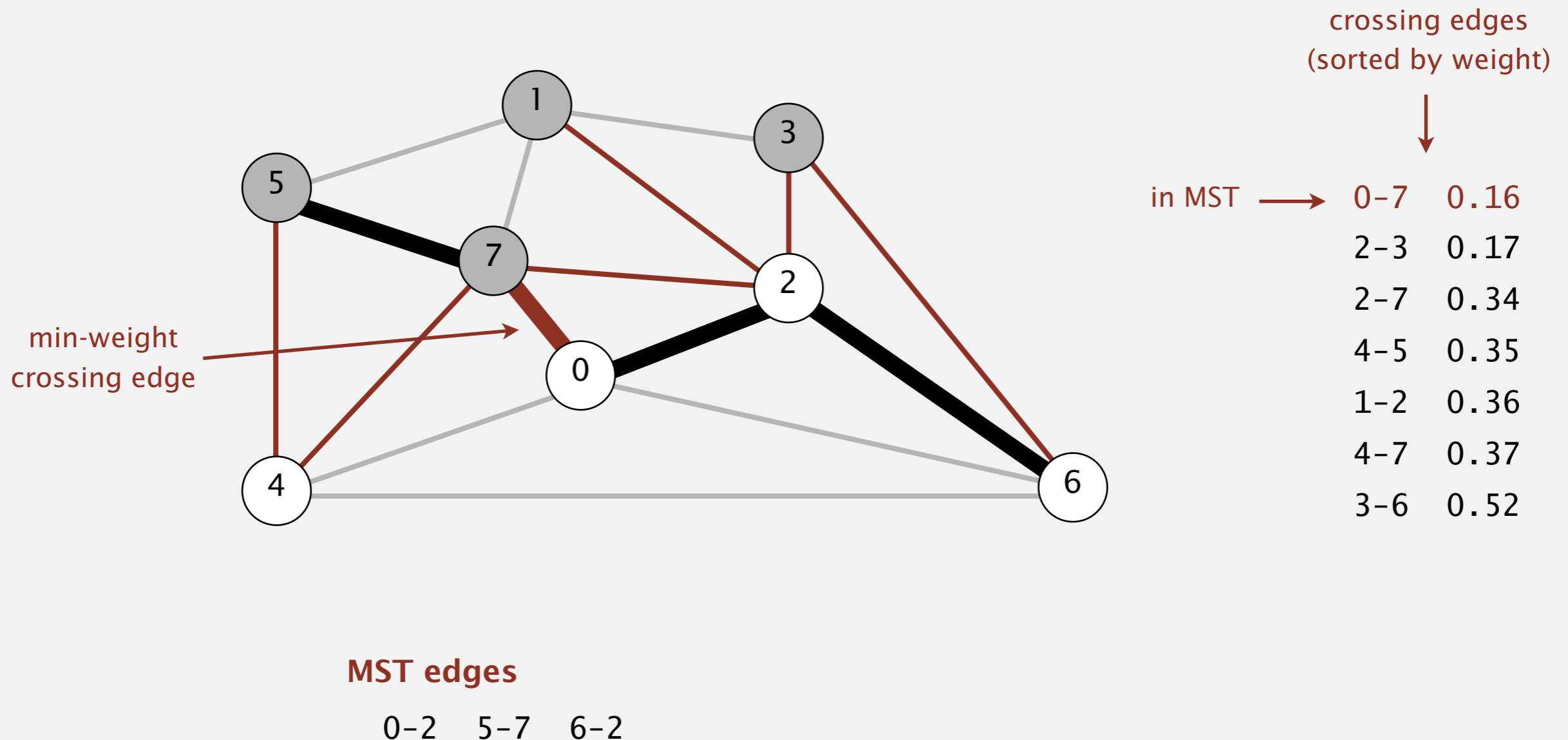
**MST edges**

0-2 5-7 6-2



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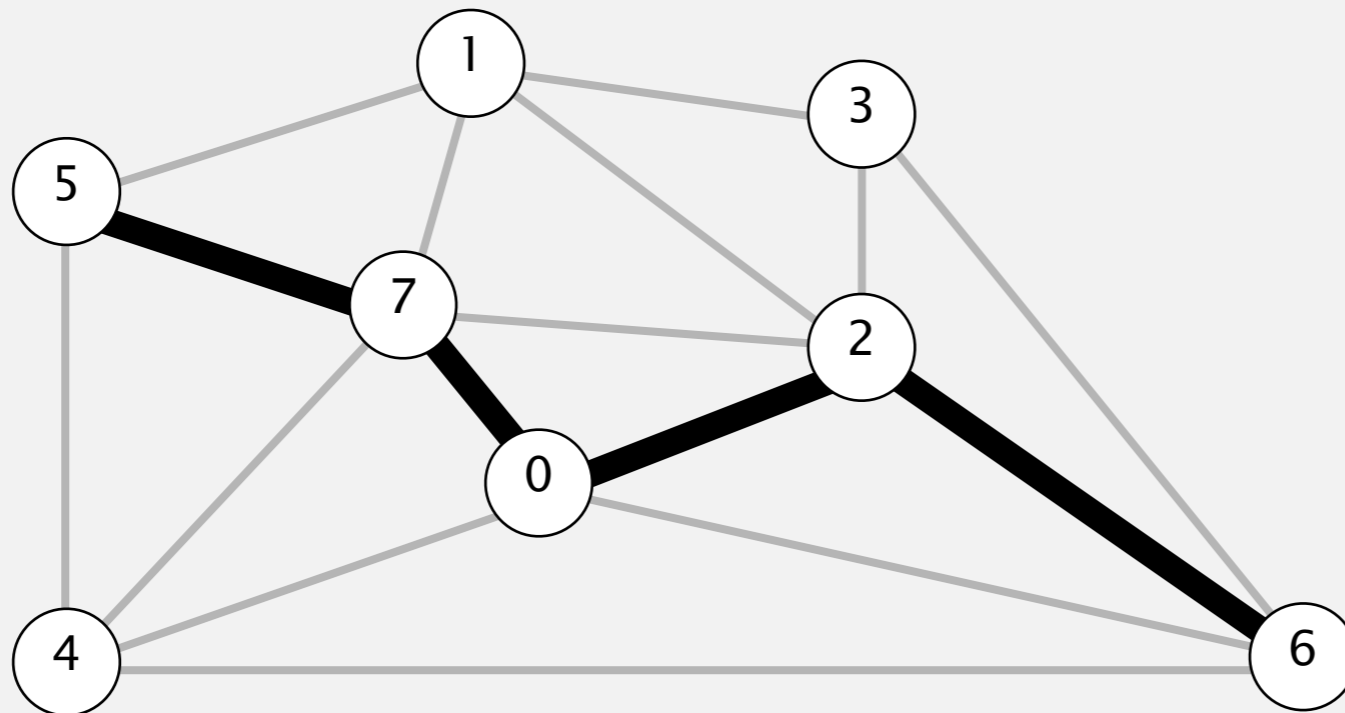
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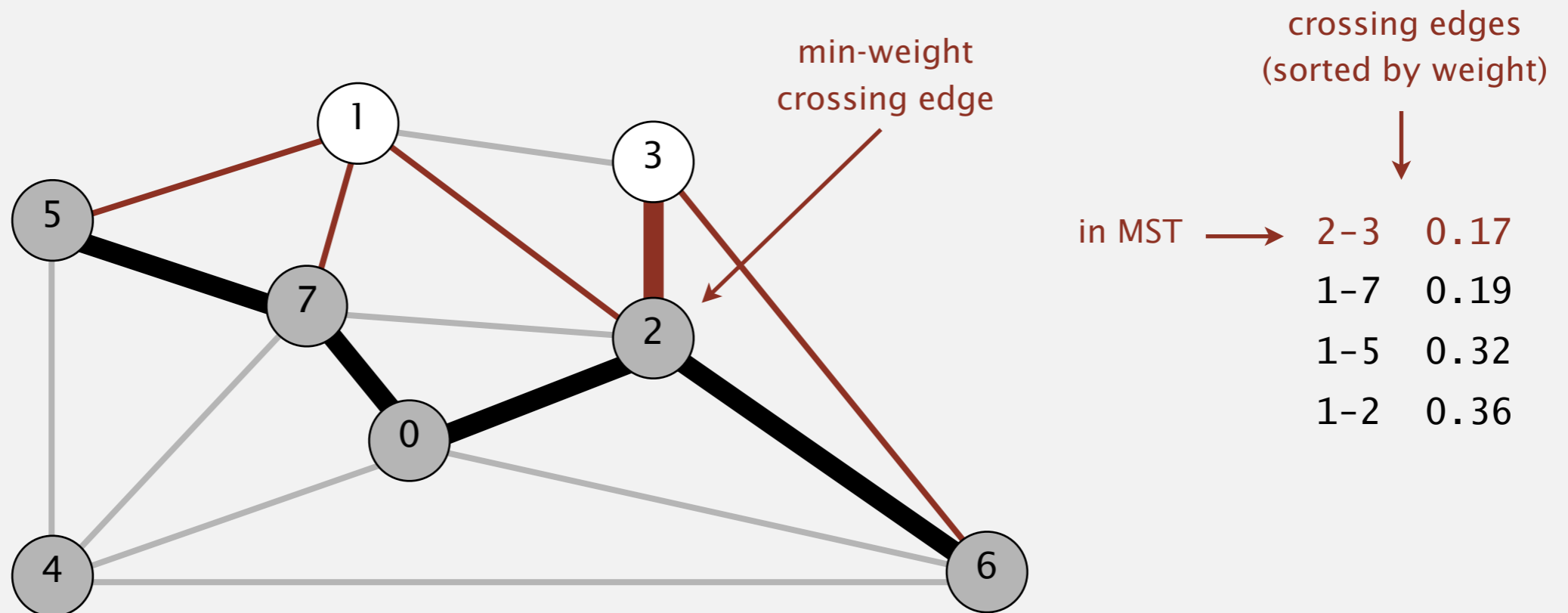


**MST edges**

0-2 5-7 6-2 0-7

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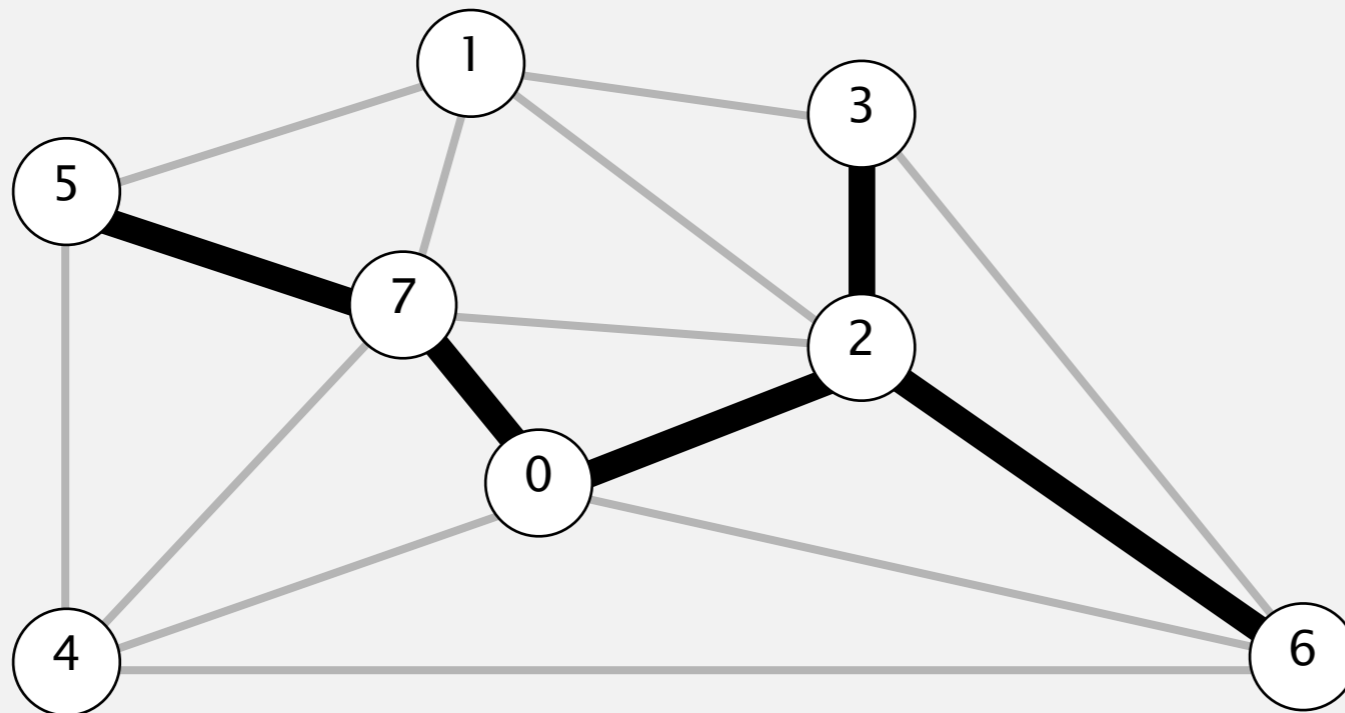
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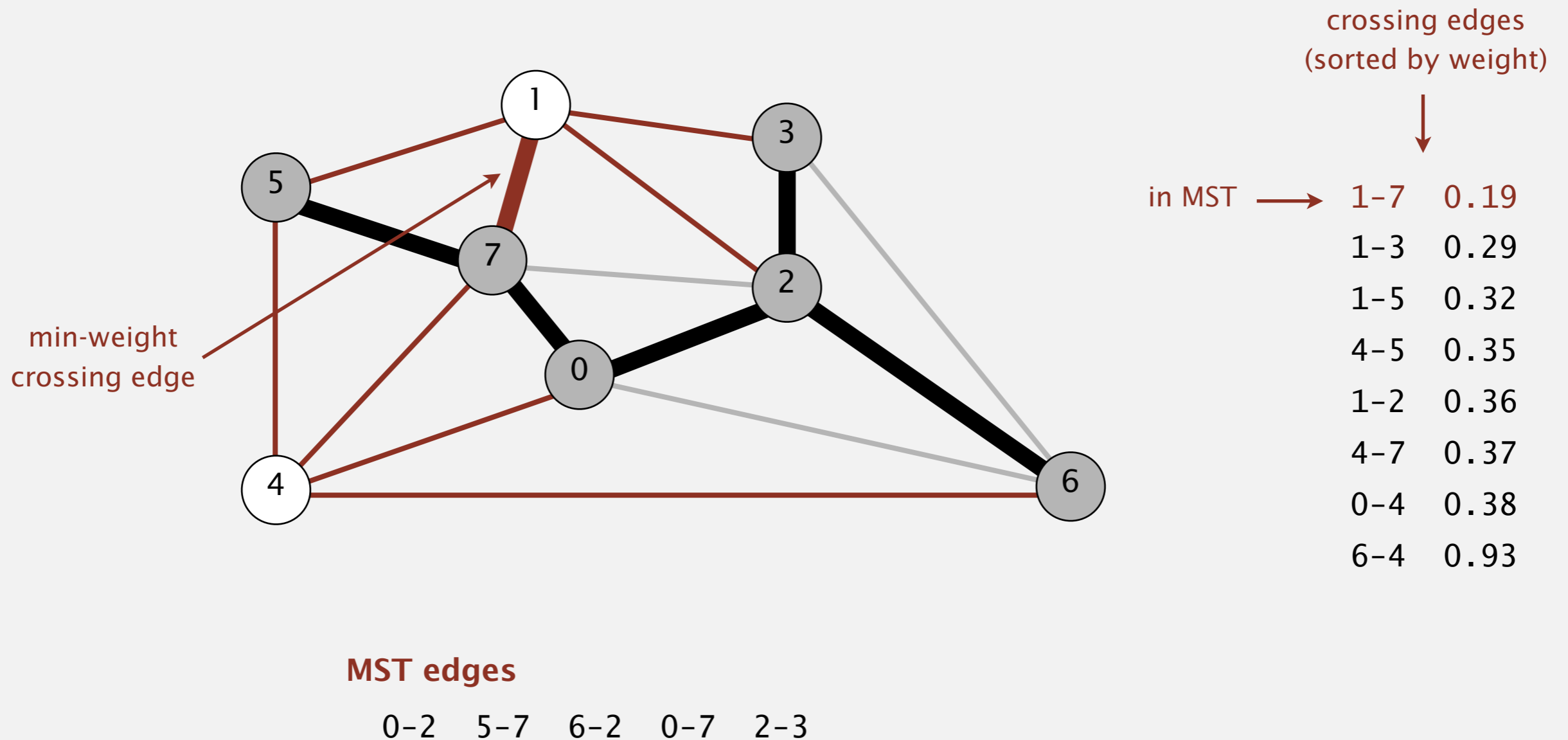


**MST edges**

0-2 5-7 6-2 0-7 2-3

# Greedy MST algorithm demo

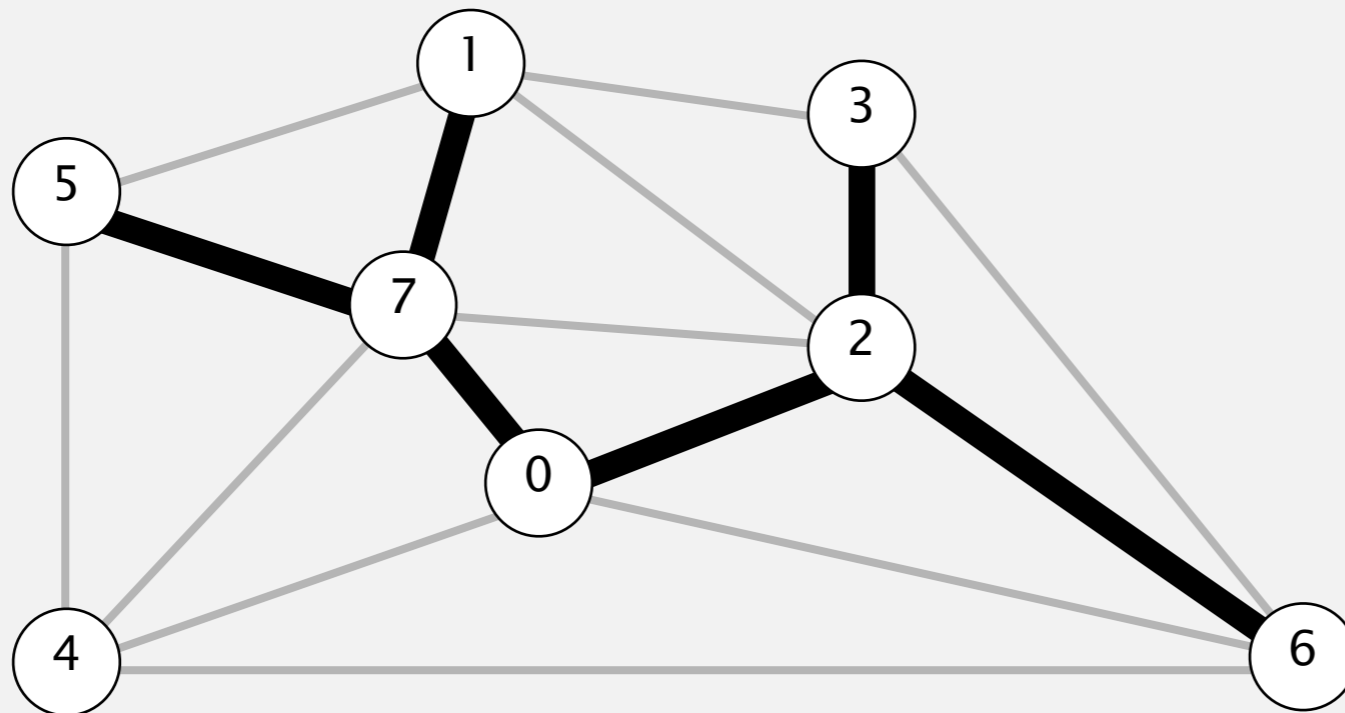
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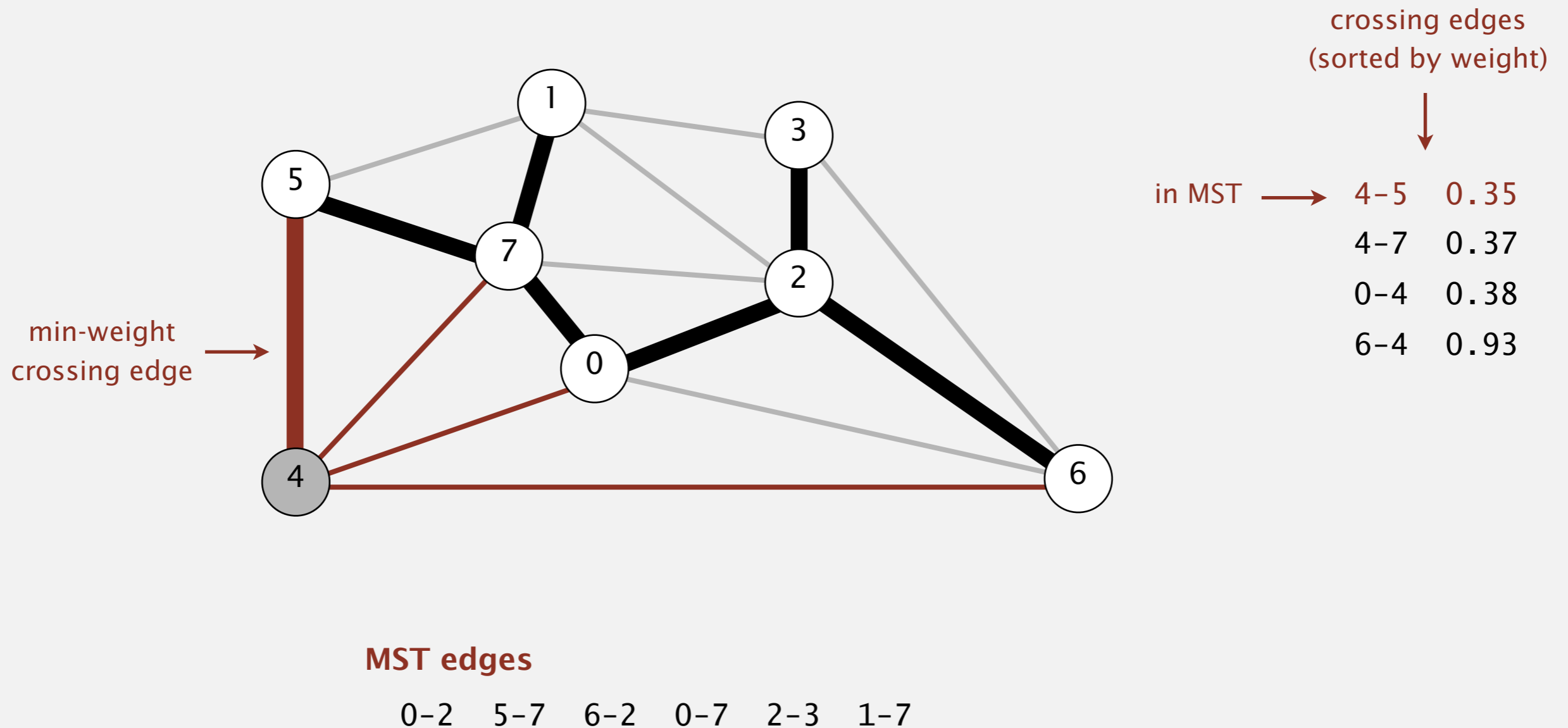


**MST edges**

0-2 5-7 6-2 0-7 2-3 1-7

# Greedy MST algorithm demo

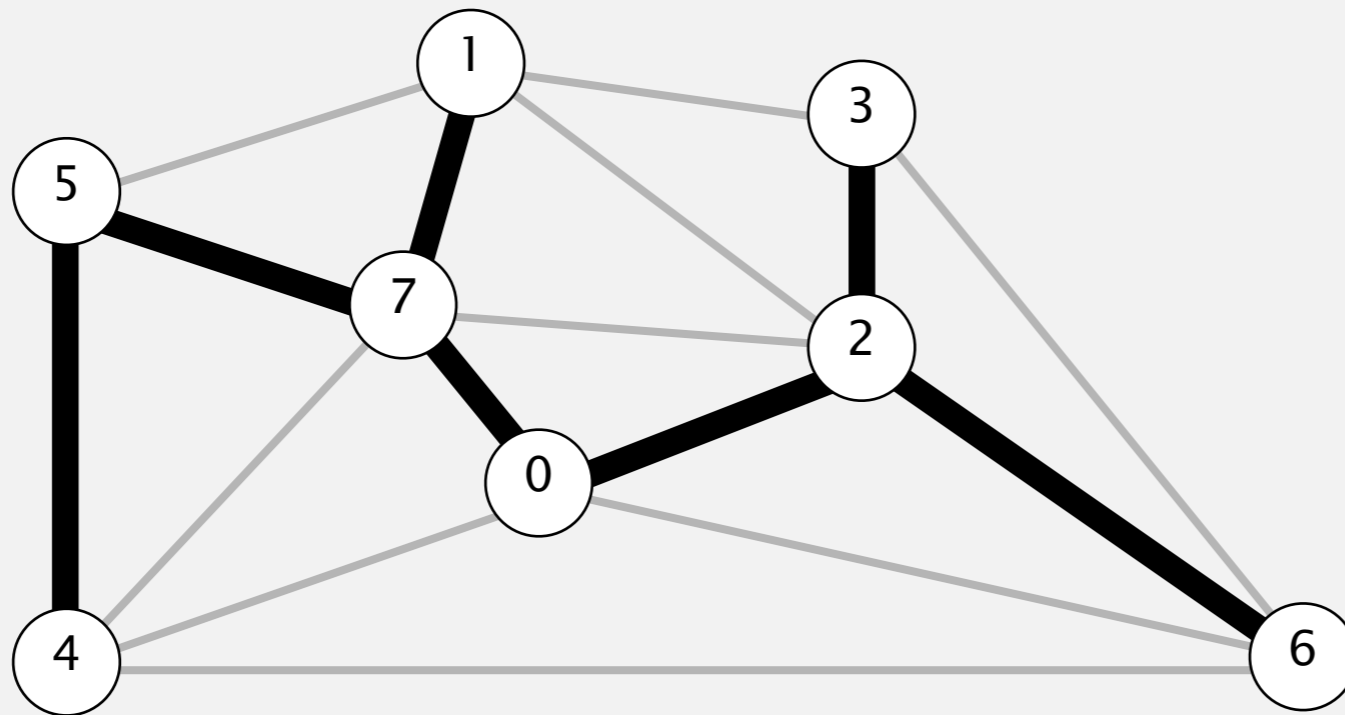
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**MST edges**

0-2 5-7 6-2 0-7 2-3 1-7 4-5