Kruskal's algorithm demo

Consider edges in ascending order of weight.

- Add next edge to tree $T$ unless doing so would create a cycle.

![Diagram of an edge-weighted graph]

*an edge-weighted graph*
Consider edges in ascending order of weight.

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Does not create a cycle in MST
Kruskal's algorithm demo

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0-7 0.16
2-3 0.17

in MST

does not create a cycle
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$$\begin{array}{ccc}
0-7 & 0.16 \\
2-3 & 0.17 \\
1-7 & 0.19 \\
\end{array}$$

in MST

![Diagram of a graph with edges labeled and an arrow pointing to an edge labeled 1-7 with weight 0.19, indicating it does not create a cycle.](image-url)
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\[
\begin{array}{|c|c|}
\hline
\text{Edge} & \text{Weight} \\
\hline
0-7 & 0.16 \\
2-3 & 0.17 \\
1-7 & 0.19 \\
0-2 & 0.26 \\
5-7 & 0.28 \\
\hline
\end{array}
\]

The graph does not create a cycle.
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```
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
```
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<table>
<thead>
<tr>
<th>Edge</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–7</td>
<td>0.16</td>
</tr>
<tr>
<td>2–3</td>
<td>0.17</td>
</tr>
<tr>
<td>1–7</td>
<td>0.19</td>
</tr>
<tr>
<td>0–2</td>
<td>0.26</td>
</tr>
<tr>
<td>5–7</td>
<td>0.28</td>
</tr>
<tr>
<td>1–3</td>
<td>0.29</td>
</tr>
<tr>
<td>1–5</td>
<td>0.32</td>
</tr>
<tr>
<td>2–7</td>
<td>0.34</td>
</tr>
<tr>
<td>4–5</td>
<td>0.35</td>
</tr>
<tr>
<td>1–2</td>
<td>0.36</td>
</tr>
</tbody>
</table>
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Consider edges in ascending order of weight.

- Add next edge to tree $T$ unless doing so would create a cycle.
Consider edges in ascending order of weight.

- Add next edge to tree \( T \) unless doing so would create a cycle.
Kruskal's algorithm demo

Consider edges in ascending order of weight.

- Add next edge to tree $T$ unless doing so would create a cycle.
Kruskal's algorithm demo

Consider edges in ascending order of weight.
- Add next edge to tree $T$ unless doing so would create a cycle.

 Diagram: A network of nodes and edges with weights. Edges with weights: 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.
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a minimum spanning tree