

# Discrete Math Homework 17

noflowerzzk

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## 1

1. Choose a as the start point.
2. Add  $a - b$ .
3. Add  $b - c$ .
4. Add  $c - d$ .
5. Add  $a - e$ .
6. Add  $d - h$ .
7. Add  $e - f$ .
8. Add  $h - g$ .
9. Add  $e - i$ .
10. Add  $a - m$ .
11. Add  $d - p$ .
12. Add  $m - n$ .
13. Add  $n - o$ .
14. Add  $p - l$ .
15. Add  $l - k$ .
16. Add  $i - j$ .

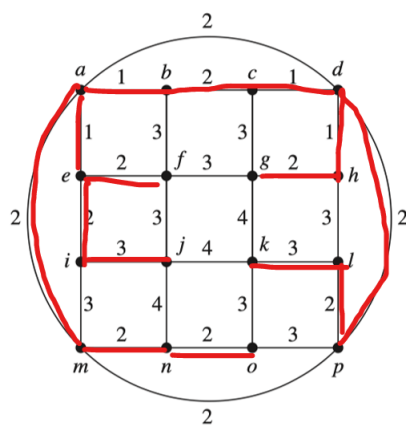
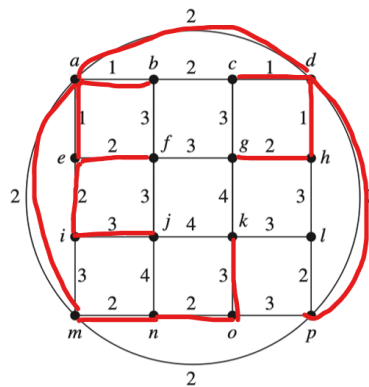


Figure 1: Prim's algorithm

1. Add  $a - b$ .
2. Add  $c - d$ .
3. Add  $d - h$ .
4. Add  $a - e$ .
5. Add  $e - f$ .
6. Add  $g - h$ .
7. Add  $a - d$ .
8. Add  $d - p$ .
9. Add  $a - m$ .
10. Add  $e - i$ .
11. Add  $m - n$ .
12. Add  $n - o$ .
13. Add  $i - j$ .
14. Add  $o - k$ .
15. Add  $k - l$ .



So there exists only one minimum spanning tree in the graph.