Let $F = (V, E, s, t, w)$ be an (s, t)-flow network, and let $f : E \to \mathbb{Z}^+ \cup \{0\}$ be a flow in F.

(a) Describe a linear-time algorithm to determine if f is a *maximum flow*.

(b) Describe a linear-time algorithm to determine if f is the *unique* maximum flow.

Rubric.

- This task will form part of the portfolio.
- Ensure that your argument is clear and keep reworking your solutions until your lab demonstrator is happy with your work.