Übungsblatt 7

0.1 subsection name

$$h[s] = |V|, \quad h[t] = 0$$

Choose $x,\ 0 < x < |V|$, such that $\forall v \in V :\ h[v] \neq x$

Proof of correctness. Need to show: $f(u,v) = c(u,v) \quad \forall u \in S,\ v \in T$

$$\forall u \in S,\ v \in T : \quad (u,v) \notin E_f$$

Assume: $\exists u \in S,\ v \in T : \quad (u,v) \in E_f$

- h is maintained and a height function. $\Rightarrow h[u] < h[v] + 1$
- $h[v] < x < h[u] \Rightarrow h[u] \leq h[u] - 2$
- Altogether we have: $h[u] \leq h[v] + 1 \leq h[u] - 2 + 1 = h[u] - 1 \lightning$

□