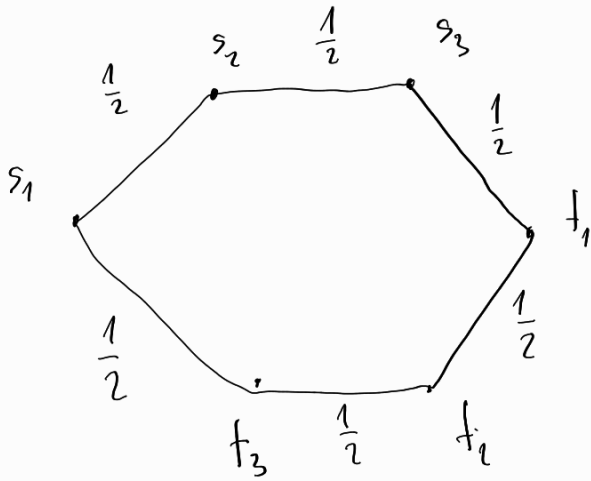
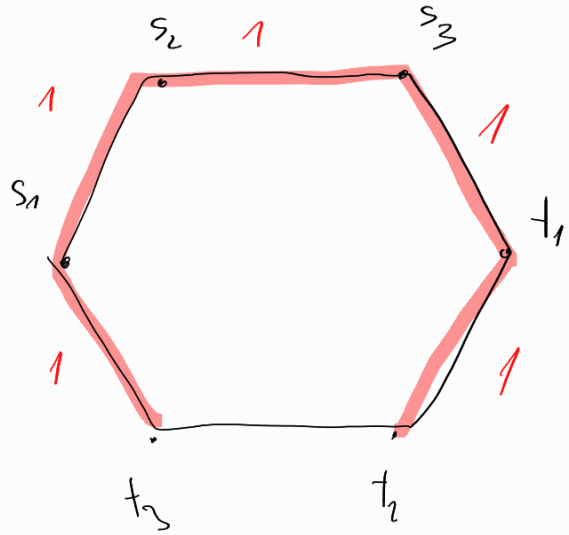


Show that the integrality gap of the IP for Steiner forest is  $\approx 2$ .

• unit edges



LP



IP

$\rightarrow \frac{5}{3}$

• if we generalize, the gap is  $\frac{3+2c}{2+c} = 1 + \frac{1+c}{2+c}$

• 2 with  $c \rightarrow \infty$

Feedback Vertex Set (Section 7.2 in the book)