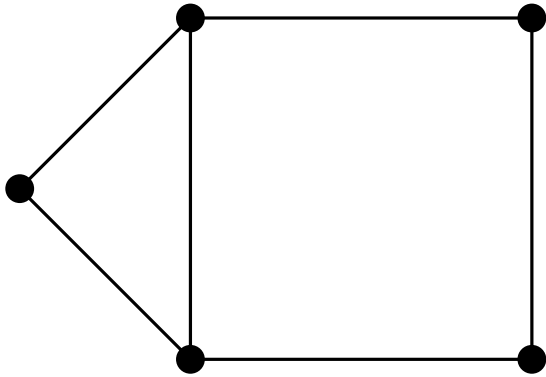
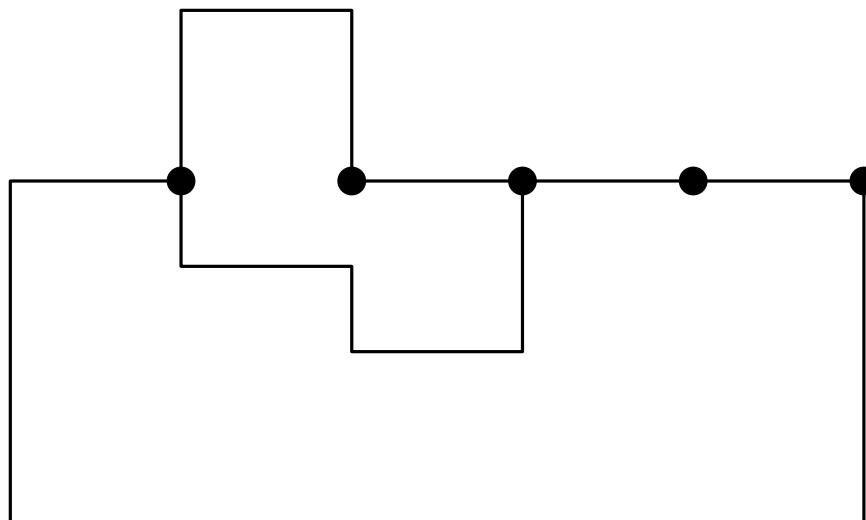
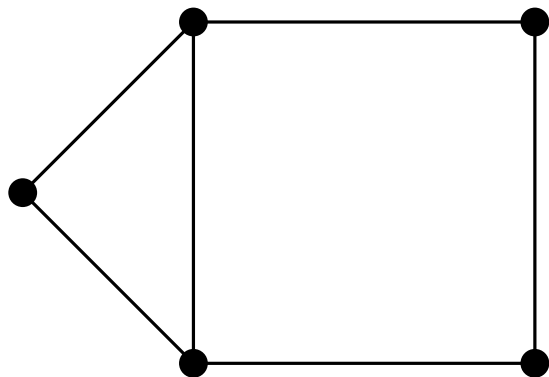


Draw a plane graph on grid with minimum total bends

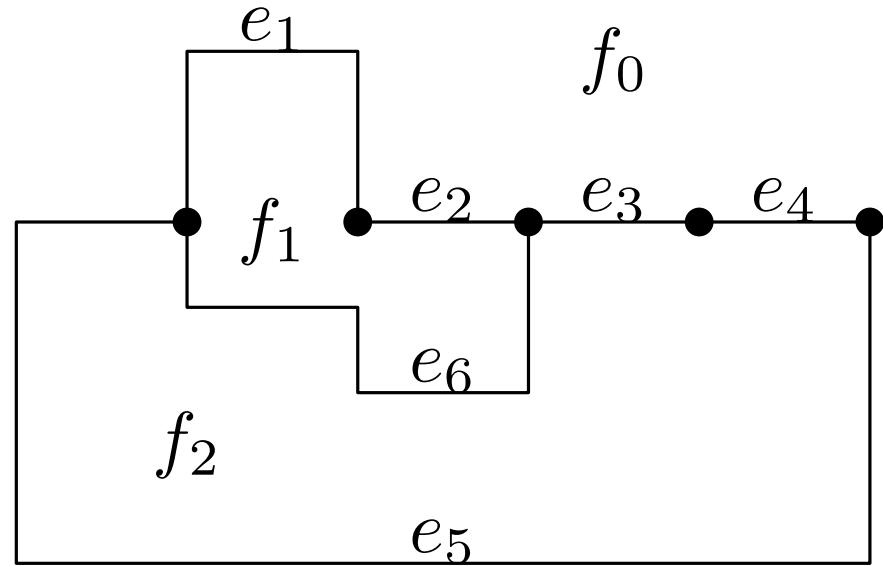
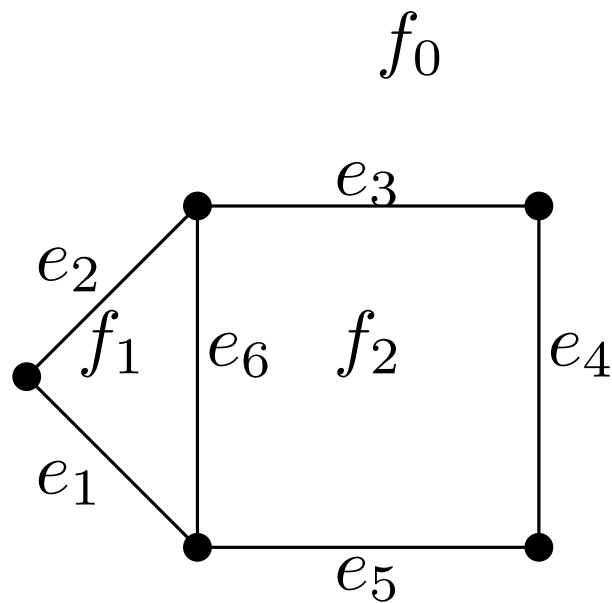
Draw a plane graph on grid with minimum total bends



Draw a plane graph on grid with minimum total bends



Draw a plane graph on grid with minimum total bends

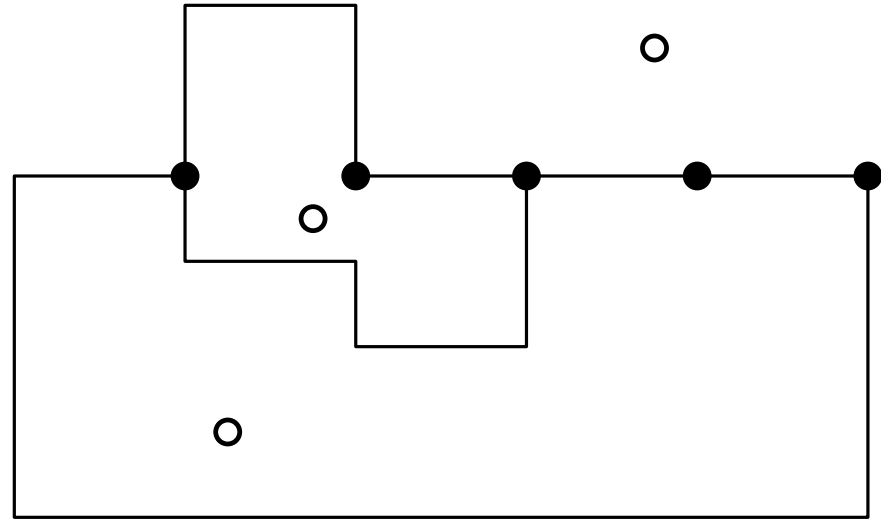
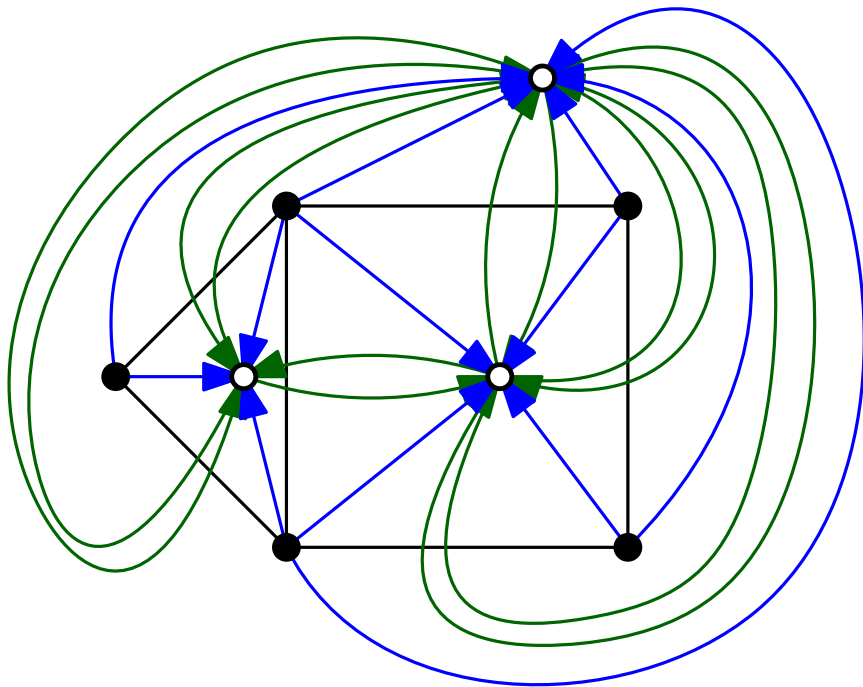


$$H_0 = (e_1 LL \frac{\pi}{2})(e_5 LLL \frac{3\pi}{2})(e_4 \emptyset \pi)(e_3 \emptyset \pi)(e_2 \emptyset \frac{\pi}{2})$$

$$H_1 = (e_1 RR \frac{3\pi}{2})(e_2 \emptyset \frac{\pi}{2})(e_6 RRLR \pi)$$

$$H_2 = (e_5 RRR \frac{\pi}{2})(e_6 LRLL \frac{\pi}{2})(e_3 \emptyset \pi)(e_4 \emptyset \frac{\pi}{2})$$

# Flow Network



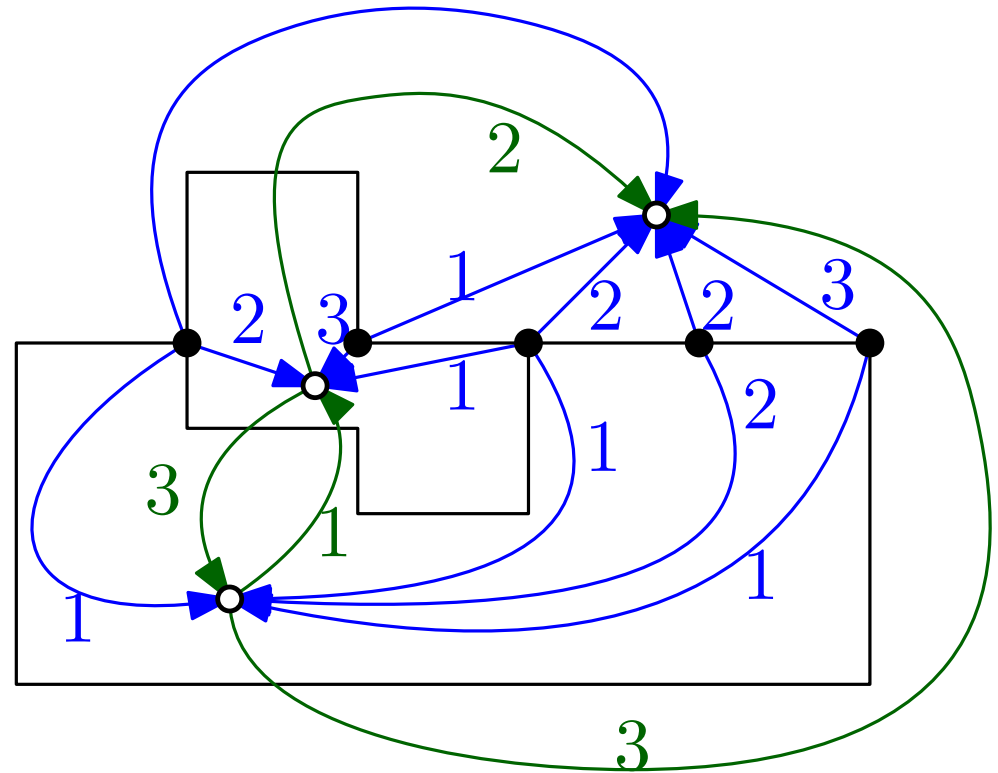
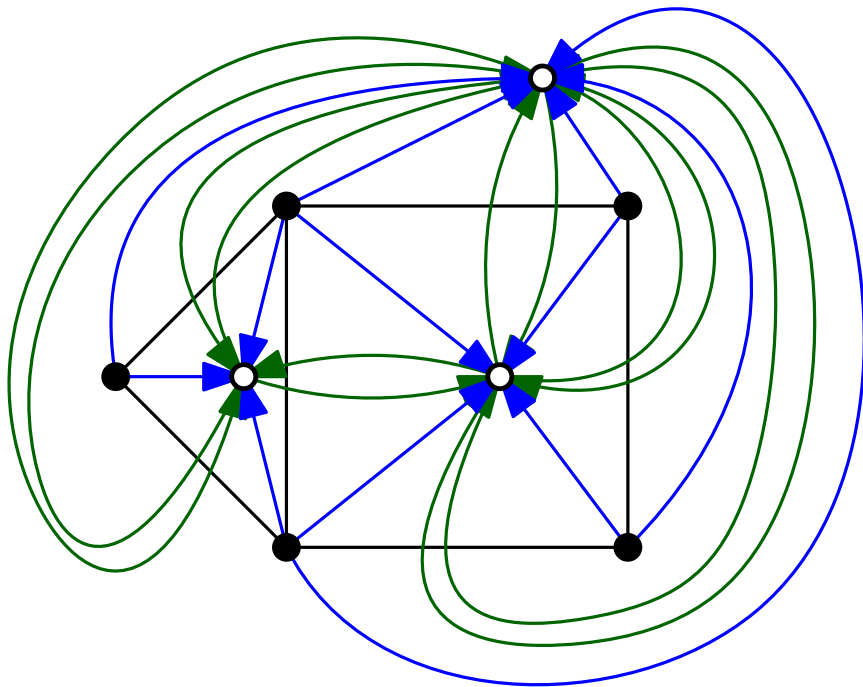
—▶ cost 0, capacity 4

—▶ cost 1, capacity  $\infty$

● source of 4 units

○ sink of  $\deg(f) \pm 4$  external  
internal

# Flow Network



—▶ cost 0, capacity 4

—▶ cost 1, capacity  $\infty$

● source of 4 units

○ sink of  $\deg(f) \pm 4$  external  
internal