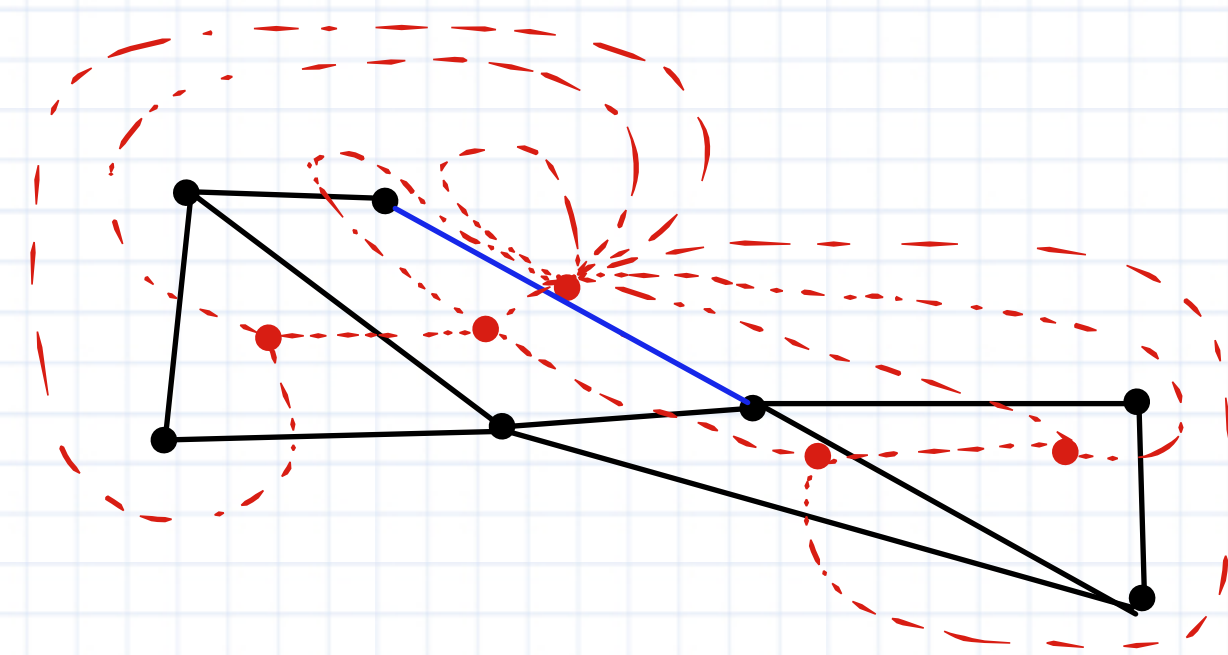


$$\left. \begin{array}{l} e = 4 \\ f = 4 \\ v = 5 \end{array} \right\} \Rightarrow$$

- Dla każdej krawędzi w G jest krawędź $\Rightarrow e^* = e$
- Jest tyle wierzchołków co ścian w G $\Rightarrow v^* = f$
-



α_k

k - kraw.

$$\alpha_k \Rightarrow \alpha_{k+1}$$

$$f - k + v = 2 \text{ dla } G_k$$



$$1) f - k + v = 2$$

$$f - (k+1) + (v+1) = 2 \checkmark$$

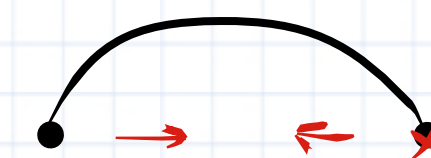


$$f + v$$

$$2) f - 1 - k + 1 + v = 2 \checkmark$$



$$3) k+1 + v - 1 + f = 2 \checkmark ?$$



$$\alpha_k(v) \Rightarrow \alpha_k(v+1)$$

$$f + v - e = 2 \text{ dla } G_v$$

$$1) f + (v) - (e-1) = G_{v+1}$$

