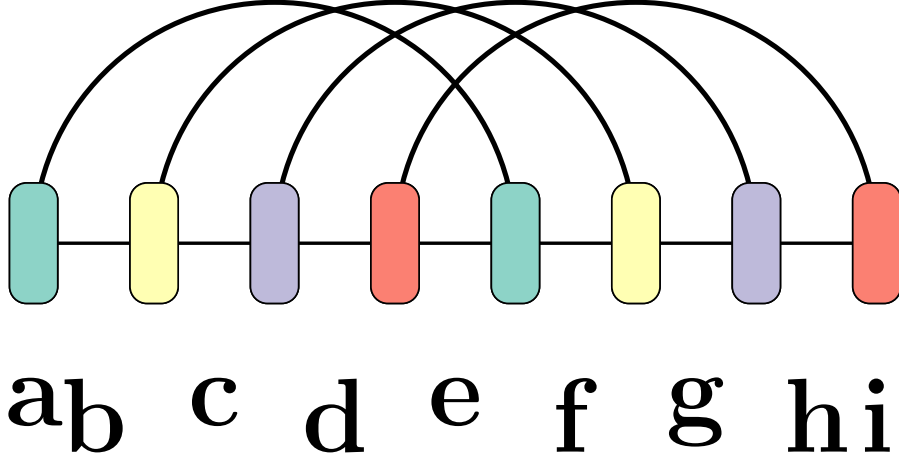


fatgraph name: K4



first and last anchors, already given: a, p

$$A = \min (B \sqcup)$$

$$B = \min_{a,c,e,h,j,m} (I[a,c,h,j] + F[c,e,j,m] + C[a,e,h,m])$$

$$C[a,e,h,m] = \min_{f,n} \left(C_{\boxtimes}[e,f-1,m,n-1] + D[a,f,h,n] \right)$$

$$D[a,f,h,n] = \min_o \left(E[h,o|a,f] \right)$$

$$E'[h,o|a,f] = \min \begin{cases} E'[h-1,o|a,f], & \text{if } h-1 \notin \{o,a,f\} \\ E[h-1,o+1|a,f] + \Delta G(h,o) & \text{if } \{h-1,o+1\} \cap \{a,f\} = \emptyset \end{cases}$$

$$E[h,o|a,f] = \min \begin{cases} E[h,o+1|a,f], & \text{if } o+1 \notin \{h,a,f\} \\ E'[h-1,o|a,f], & \text{if } h-1 \notin \{o,a,f\} \\ E[h-1,o+1|a,f] + \Delta G(h,o) & \text{if } \{h-1,o+1\} \cap \{a,f\} = \emptyset \end{cases}$$

$$F[c,e,j,m] = \min_l (G[c,e,j,l])$$

$$G[c,e,j,l] = \min_d (H[c,d,j,l])$$

$$H[c,d,j,l] = \min_k \left(C_{\boxtimes}[c,d-1,k,l-1] \right)$$

$$I[a,c,h,j] = \min_i (J[a,c,i,j])$$

$$J[a,c,i,j] = \min_b \left(C_{\boxtimes}[a,b-1,i,j-1] \right)$$