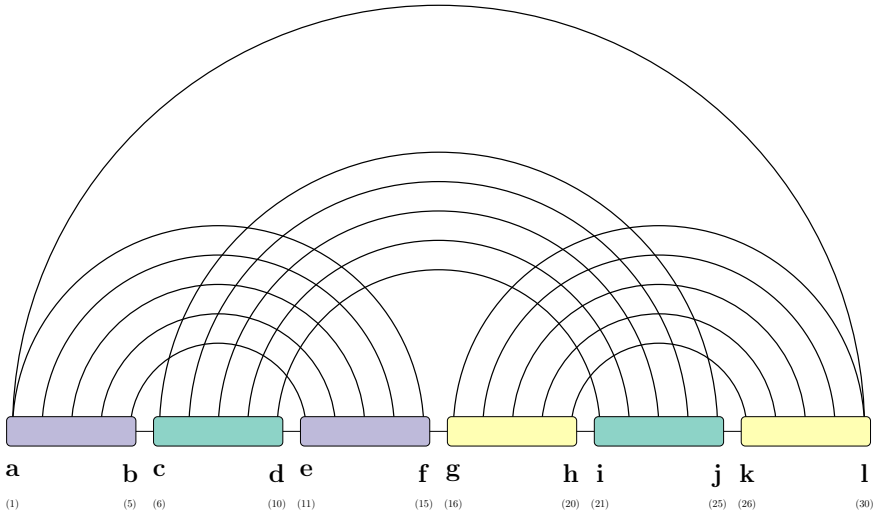
fatgraph name: K



first and last anchors, already given: a, l

$$A = \min_{f,h,k} \left(B[a, f, k, h] + G[f, k, h, l] \right)$$

$$B\left[a, f, h, k\right] = \min_{i} \left(C[a, f, i, k] \right)$$

$$C\left[a, f, i, k\right] = \min_{j} \Big(D\left[a, f \mid i, j\right] \Big)$$

$$D'\left[a, f \mid i, j\right] = \min \begin{cases} D'[a, f-1 \mid i, j], & \text{if } f-1, \notin \{a, i, j\} \\ D\left[a+1, f-1 \mid i, j\right] + \Delta G(a, f) & \text{if } \{a+1, f-1\} \cap \{i, j\} = \emptyset \end{cases}$$

$$D\left[a, f \mid i, j\right] = \min \begin{cases} D\left[a+1, f \mid i, j\right], & \text{if } a+1 \notin \{f, i, j\} \\ D'[a, f-1 \mid i, j], & \text{if } f-1, \notin \{a, i, j\} \\ D\left[a+1, f-1 \mid i, j\right] + \Delta G(a, f) & \text{if } \{a+1, f-1\} \cap \{i, j\} = \emptyset, \\ E[f, a, i, j] \end{cases}$$

$$E\left[b, e, i, j\right] = \min_{c} \left(F[e, c, i, j] \right)$$

$$F\left[c, e, i, j\right] = \min_{d} \Big(C_{\boxtimes}\left[c, d, i, j\right] \Big)$$

$$G\left[f, h, k, l\right] = \min_{g} \Big(C_{\boxtimes}\left[g, h, k, l\right] \Big)$$