CLRS 15-2

Peter Danenberg

September 25, 2008

Let $e[i, j] = M - (j - i) - \sum_{k=i}^{j} l_k$; let $l[i, j]$ be the cost of including a line containing words i through j. Then:

$$l[i, j] = \begin{cases} e[i, j] < 0 \rightarrow \infty \\ j = n \rightarrow 0 \\ \text{otherwise} \rightarrow e[i, j]^3 \end{cases}$$

Let $c[i, j]$ be the cost of an optimal arrangement of words $1, \ldots, j$:

$$c[i, j] = \begin{cases} j = 0 \rightarrow 0 \\ j > 0 \rightarrow \min_{1 \leq i \leq j} (c[i - 1] + l[i, j]) \end{cases}$$

$p[i, j]$ keeps track of the choices made to produce $c[i, j]$.