

Figure 12.1 A graph for which the shortest path between nodes 0 and 4 is to be computed.

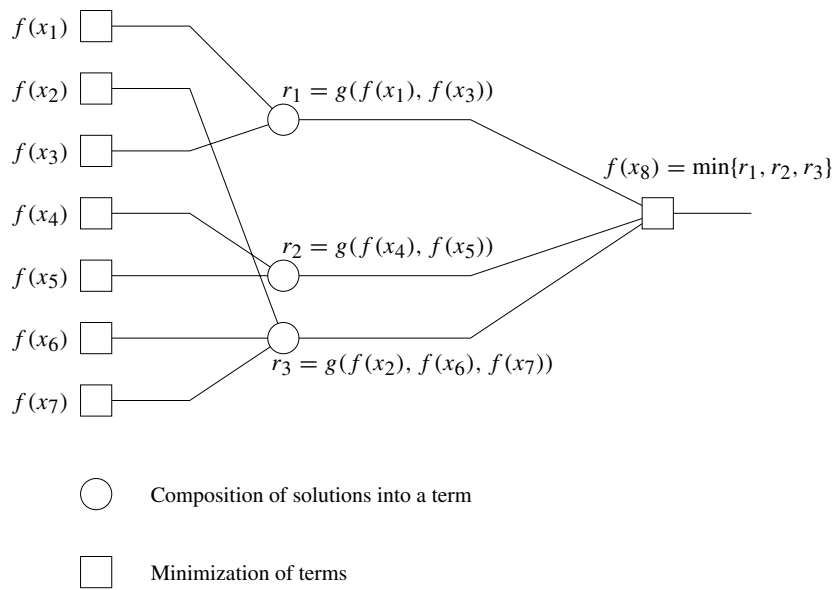


Figure 12.2 The computation and composition of subproblem solutions to solve problem $f(x_8)$.

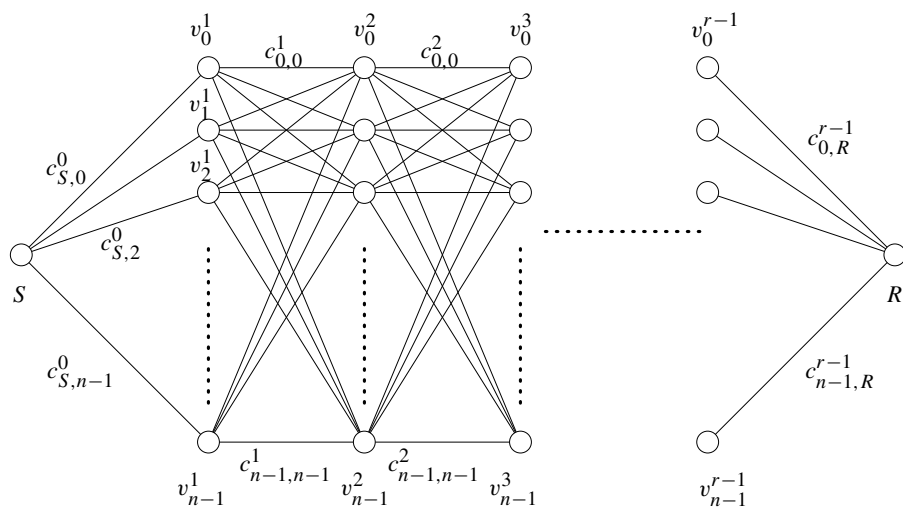


Figure 12.3 An example of a serial monadic DP formulation for finding the shortest path in a graph whose nodes can be organized into levels.

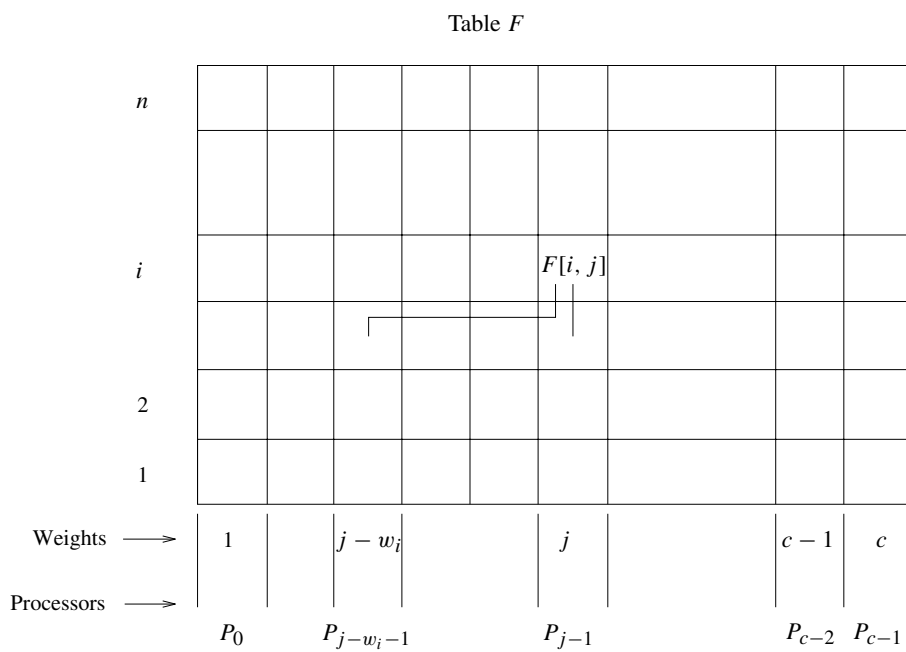


Figure 12.4 Computing entries of table F for the 0/1 knapsack problem. The computation of entry $F[i, j]$ requires communication with processing elements containing entries $F[i - 1, j]$ and $F[i - 1, j - w_i]$.

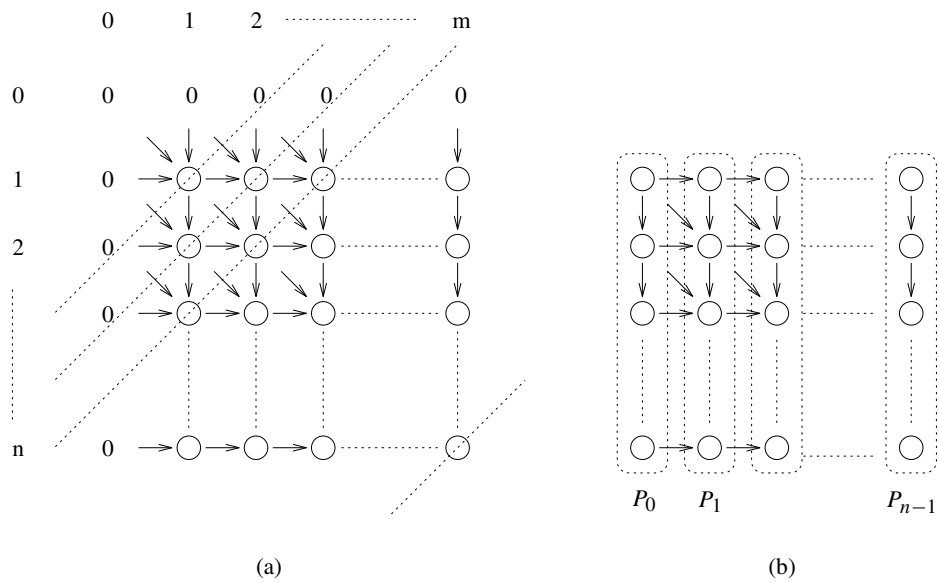


Figure 12.5 (a) Computing entries of table F for the longest-common-subsequence problem. Computation proceeds along the dotted diagonal lines. (b) Mapping elements of the table to processing elements.

| | H | E | A | G | A | W | G | H | E | E |
|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| W | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| H | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 |
| E | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 |
| A | 0 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| E | 0 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |

Figure 12.6 The F table for computing the LCS of sequences H E A G A W G H E E and P A W H E A E.

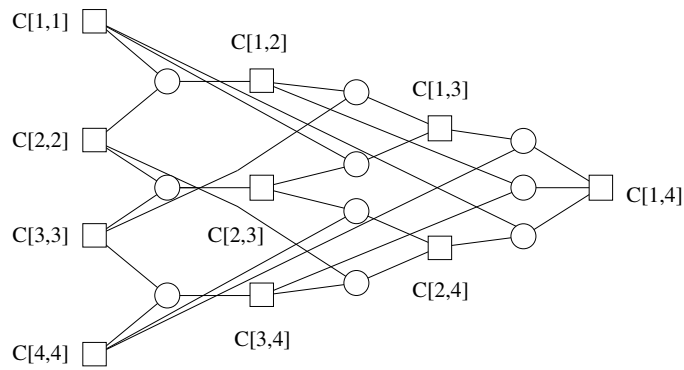


Figure 12.7 A nonserial polyadic DP formulation for finding an optimal matrix parenthesization for a chain of four matrices. A square node represents the optimal cost of multiplying a matrix chain. A circle node represents a possible parenthesization.

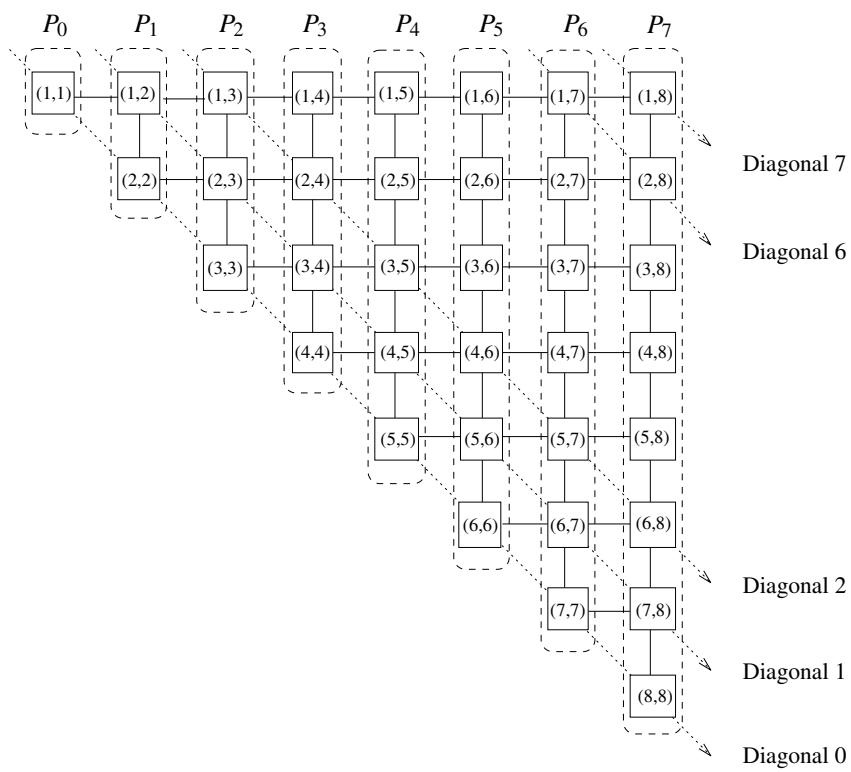


Figure 12.8 The diagonal order of computation for the optimal matrix-parenthesization problem.

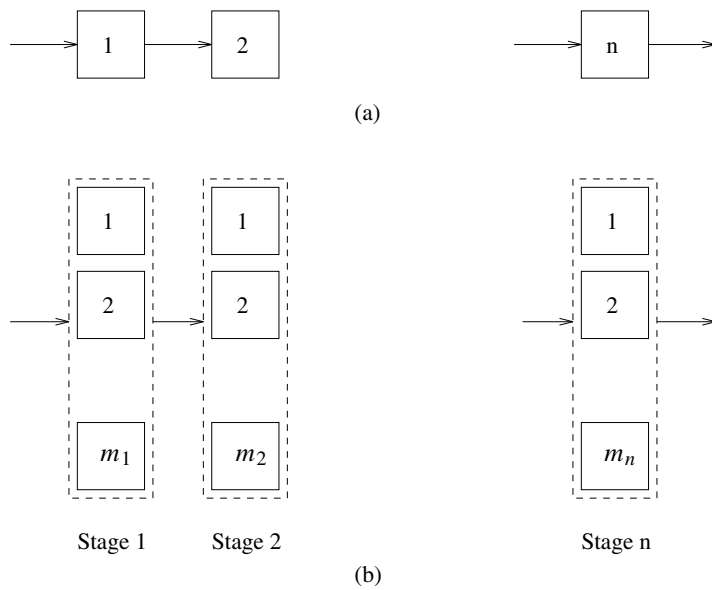


Figure 12.9 (a) n devices connected in a series within a circuit. (b) Each stage in the circuit now has m_i functional units. There are n such stages connected in the series.

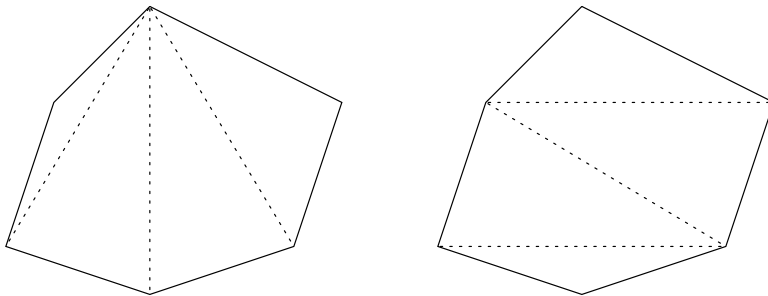


Figure 12.10 Two possible triangulations of a regular polygon.