

Matrix Filling Logic

Processing Element: Computes the score of a single cell, as well as its source (for back trace purposes), based on its 3 neighbored cells. $M_{i,j}$ is the score and $S_{i,j}$ is the source of cell (i,j) .

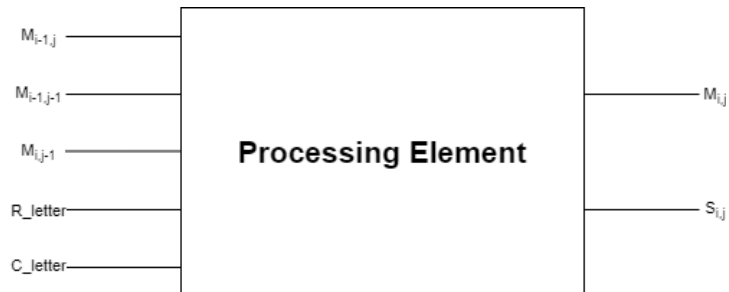


Figure 1: L/O Diagram of Processing Element

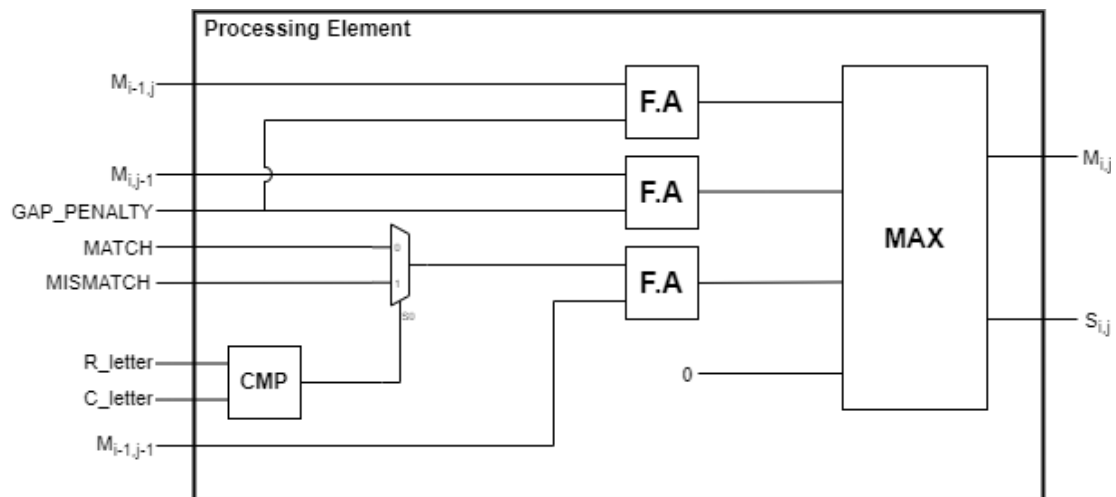


Figure 2: Processing Element Logic

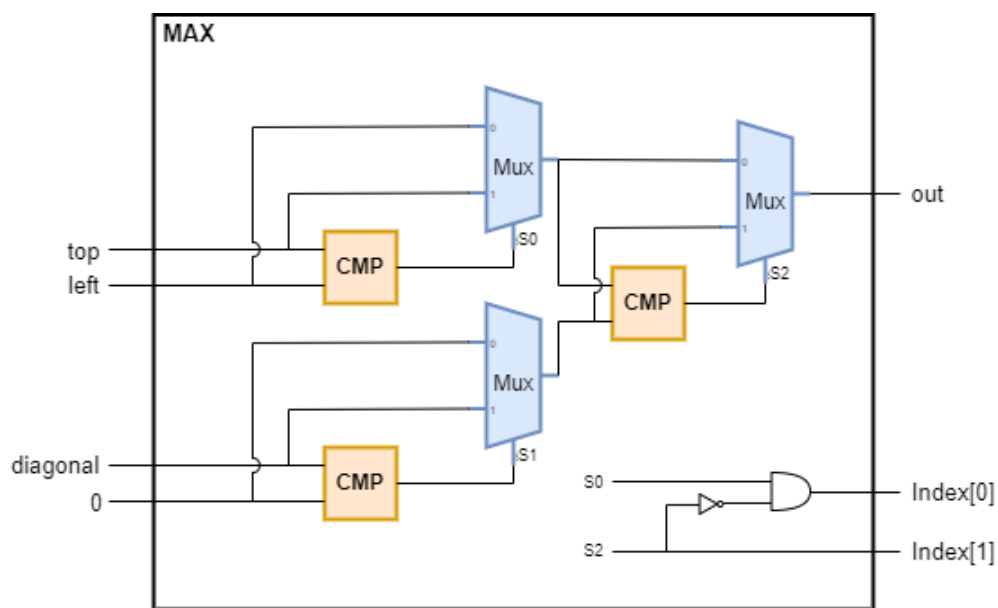


Figure 3: Maximum Computation Logic

Processing Unit: Computes the score of 16 cells (consists of 16 processing elements).

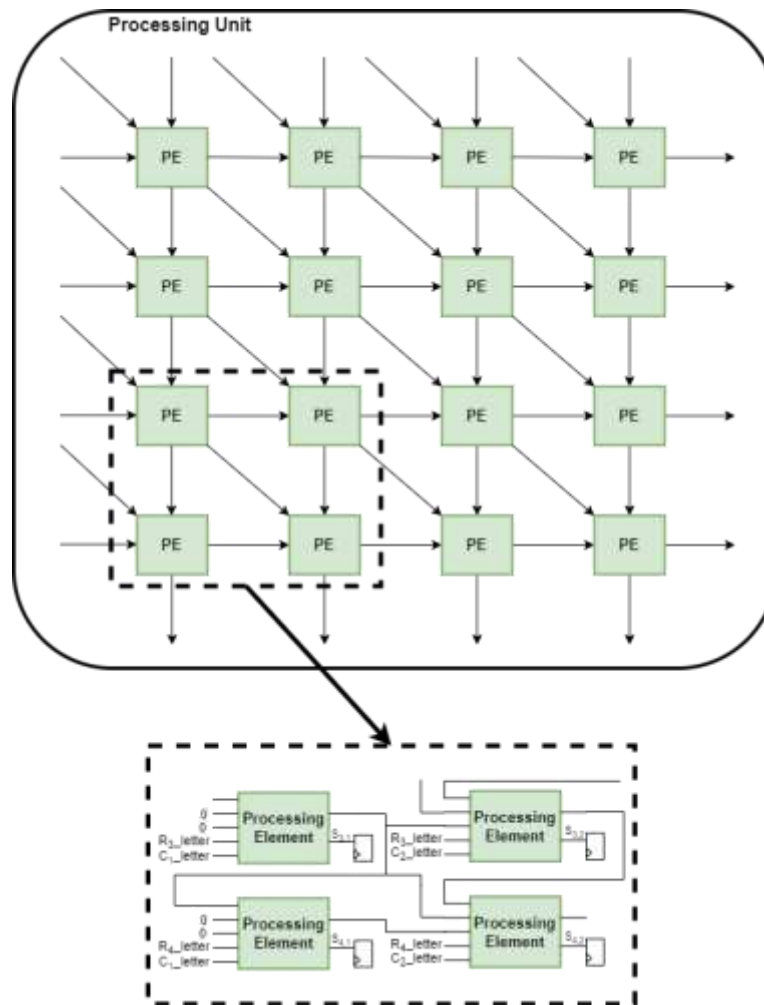


Figure 4: Connection Between the Processing Elements

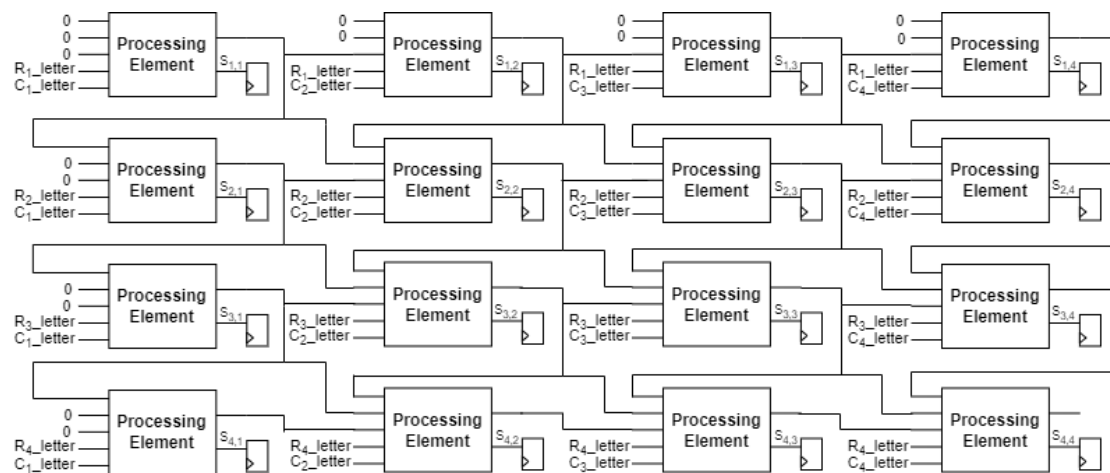


Figure 5: Processing Unit Scheme