```
declarations of channels;

process Worker(w = 1 to PR) {
  double LU[1:n/PR,1:n/PR];    # my rows of LU
  int ps[1:n/PR];              # pivot row indices
  double pivot, mult, pivotRow[n];
  int myRow;
  declarations of other local variables;
  initialize ps and my rows of LU;
  # perform Gaussian elimination with partial pivoting
  for [k = 1 to n-1] {     # iterate down main diagonal
    find maximum pivot element in column k of my rows;
    exchange pivot with other workers;
    select global maximum and update ps;
    if (owner of pivot row)
      broadcast pivotRow to other workers;
    else
      receive pivotRow;
    # eliminate my rows of LU using pivot and pivotRow
    for [i = k+1 to n st (i%PR == 0)] { # for my stripe
      myRow = i/PR;                  # convert row index
      mult = LU[ps[myRow],k]/pivot;  # compute multiplier
      LU[ps[myRow],k] = mult;        #   and save it
      for [j = k+1 to n]       # eliminate across columns
        LU[ps[myRow],j] = LU[ps[myRow],j] -
                          mult * pivotRow[j];
    }
  }
}
```

**Figure 11.19** Outline of message-passing program for LU decomposition.

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