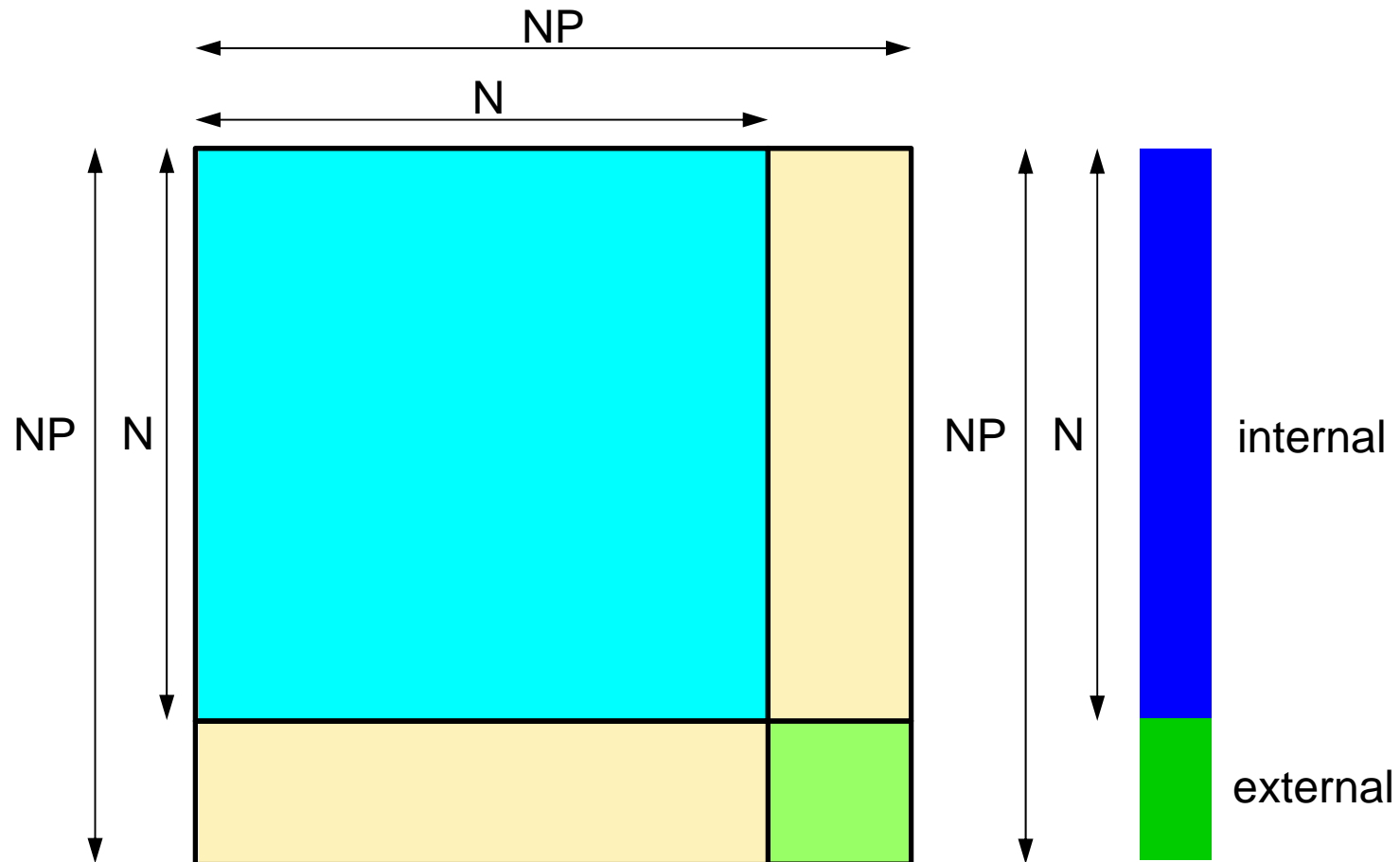
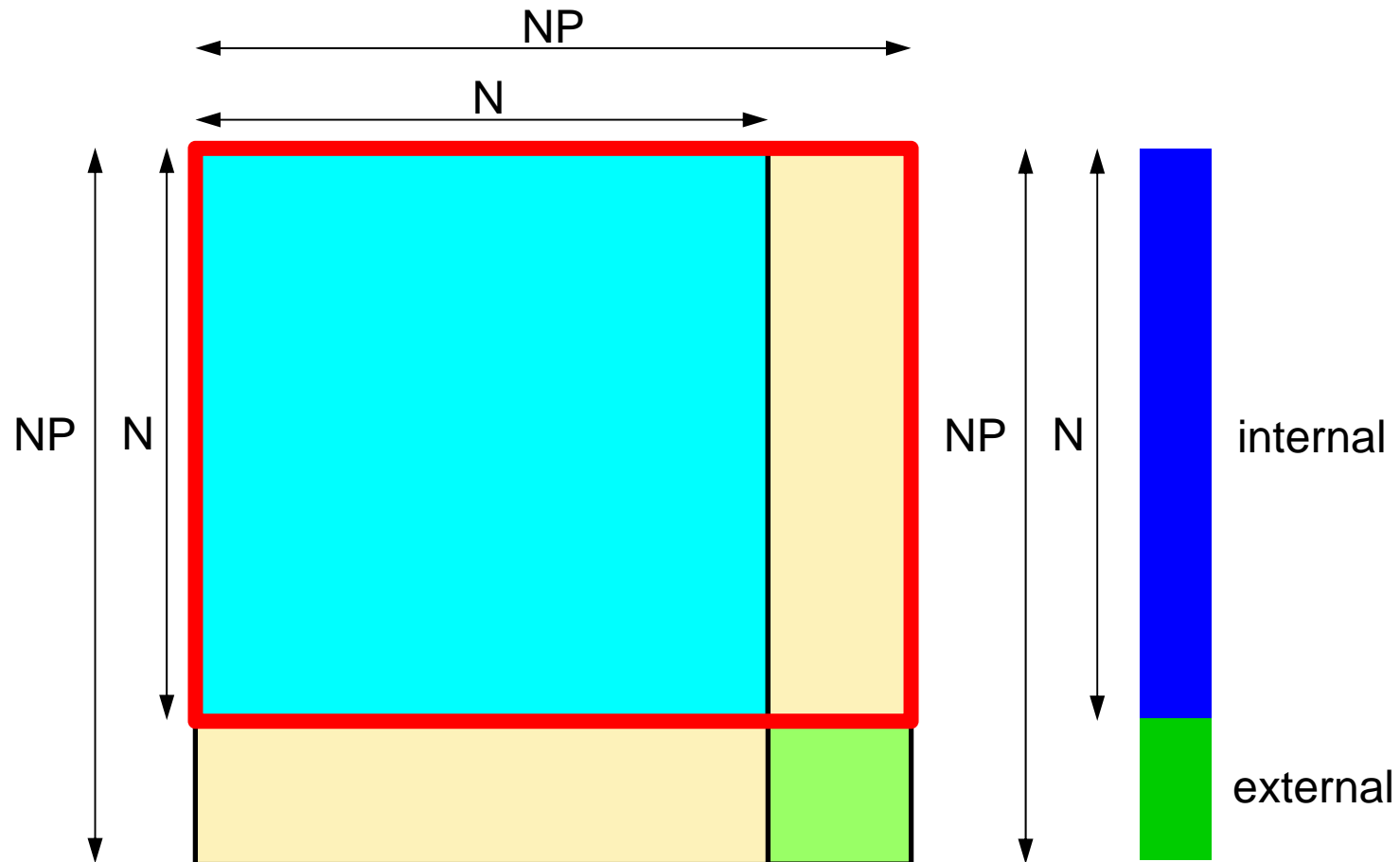


Local Matrix



We really need these parts:



MAT_ASS_MAIN: Overview

```

do kpn= 1, 2      Gaussian Quad. points in  $\zeta$ -direction
  do jpn= 1, 2    Gaussian Quad. points in  $\eta$ -direction
    do ipn= 1, 2  Gaussian Quad. Points in  $\xi$ -direction
      Define Shape Function at Gaussian Quad. Points (8-points)
      Its derivative on natural/local coordinate is also defined.
    enddo
  enddo
enddo

```

```

do icel= 1, ICELTOT  Loop for Element
  Jacobian and derivative on global coordinate of shape functions at
  Gaussian Quad. Points are defined according to coordinates of 8 nodes. (JACOBI)

```

```

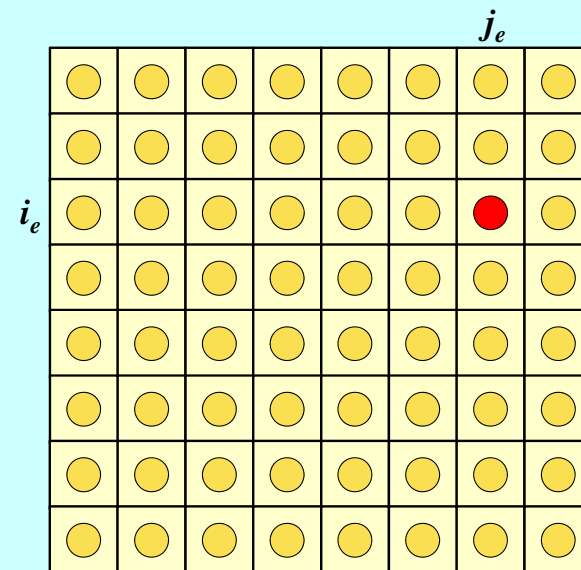
do ie= 1, 8          Local Node ID
  do je= 1, 8        Local Node ID
    Global Node ID: ip, jp
    Address of  $A_{ip, jp}$  in "item" : kk

```

```

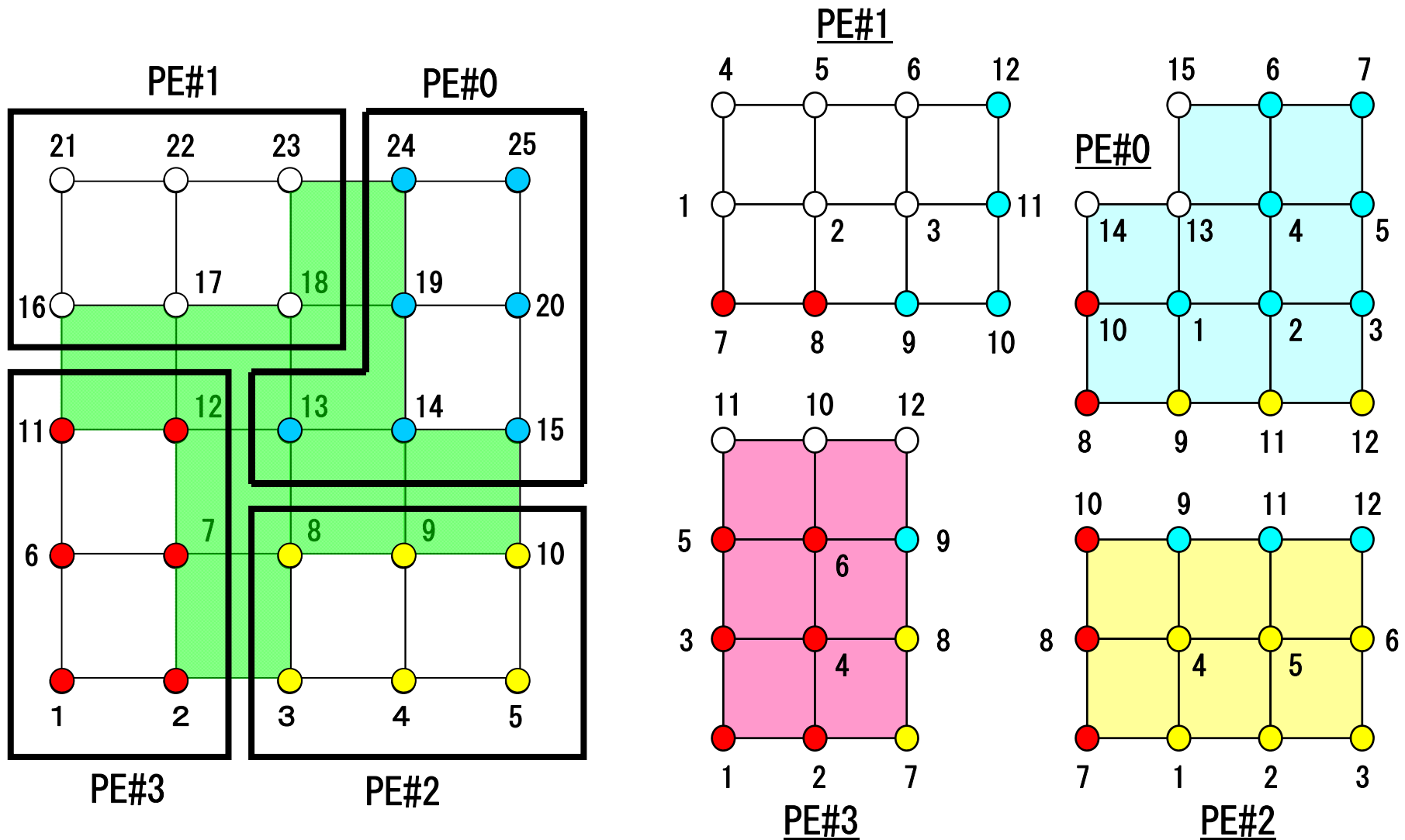
do kpn= 1, 2      Gaussian Quad. points in  $\zeta$ -direction
  do jpn= 1, 2    Gaussian Quad. points in  $\eta$ -direction
    do ipn= 1, 2  Gaussian Quad. points in  $\xi$ -direction
      integration on each element
      coefficients of element matrices
      accumulation to global matrix
    enddo
  enddo
enddo
enddo
enddo
enddo

```

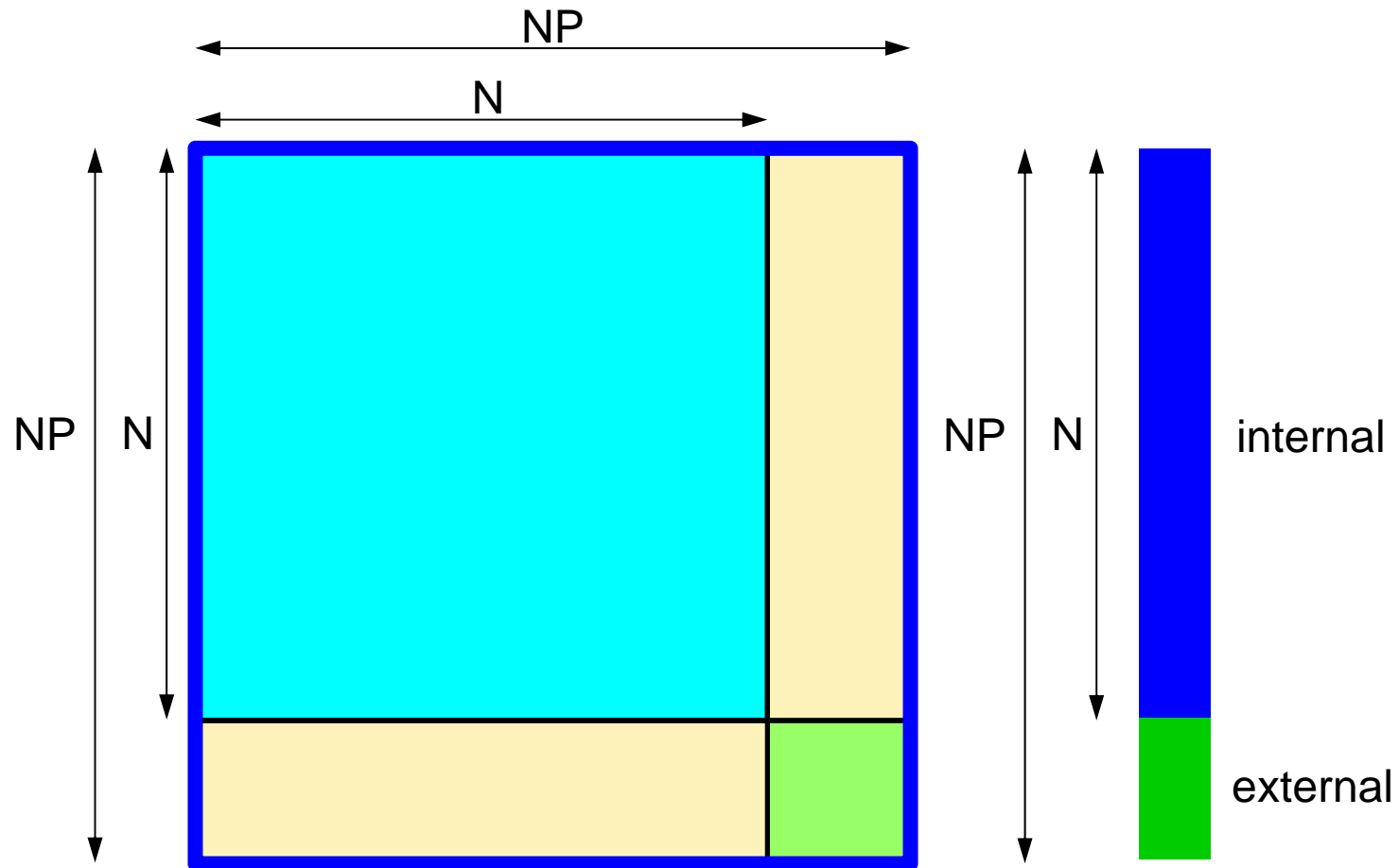


MAT_ASS_MAIN visits all elements

including overlapped elements with external nodes



Therefore, we have this matrix



But components of this part are not complete, and not used in computation

