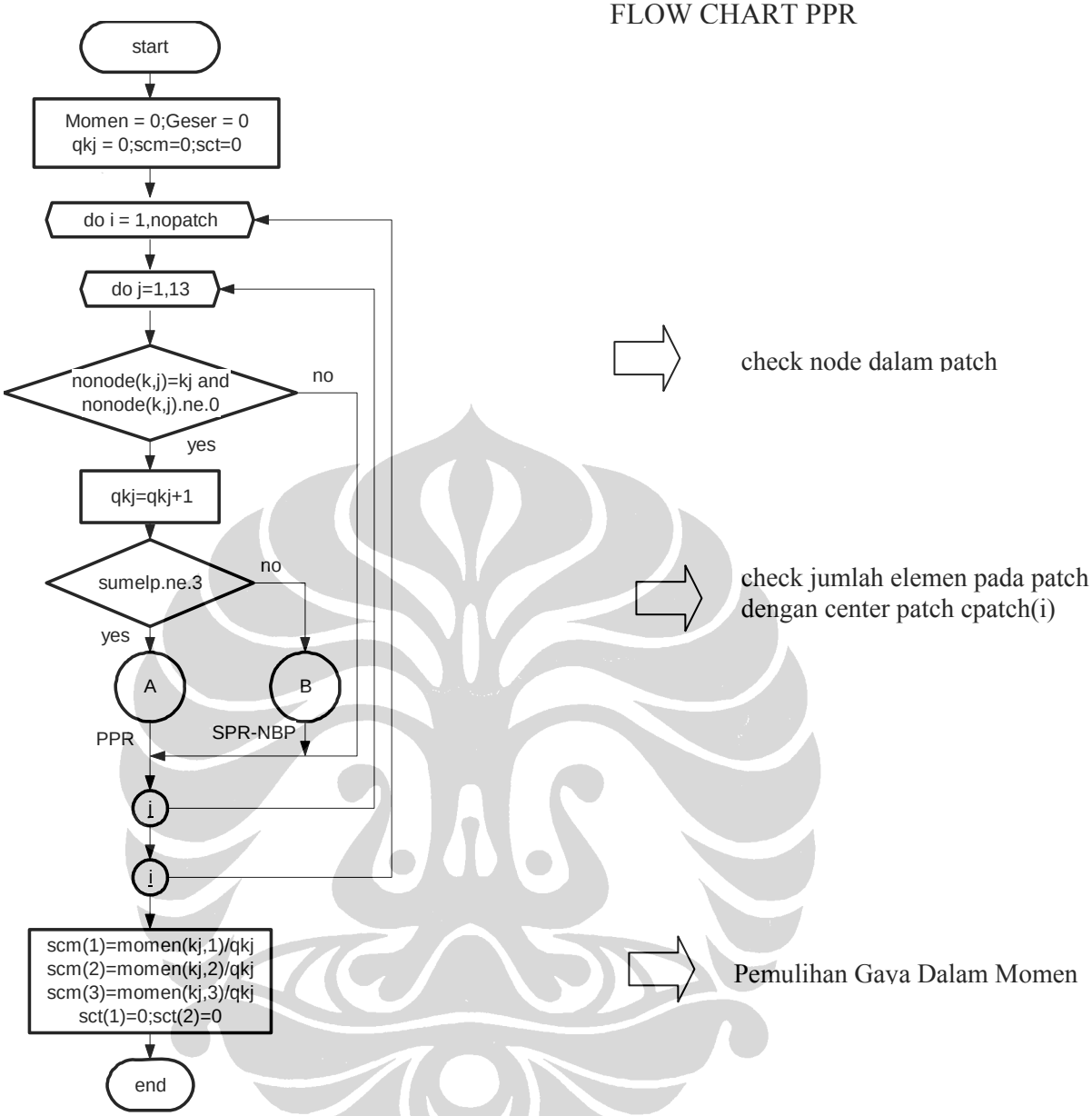
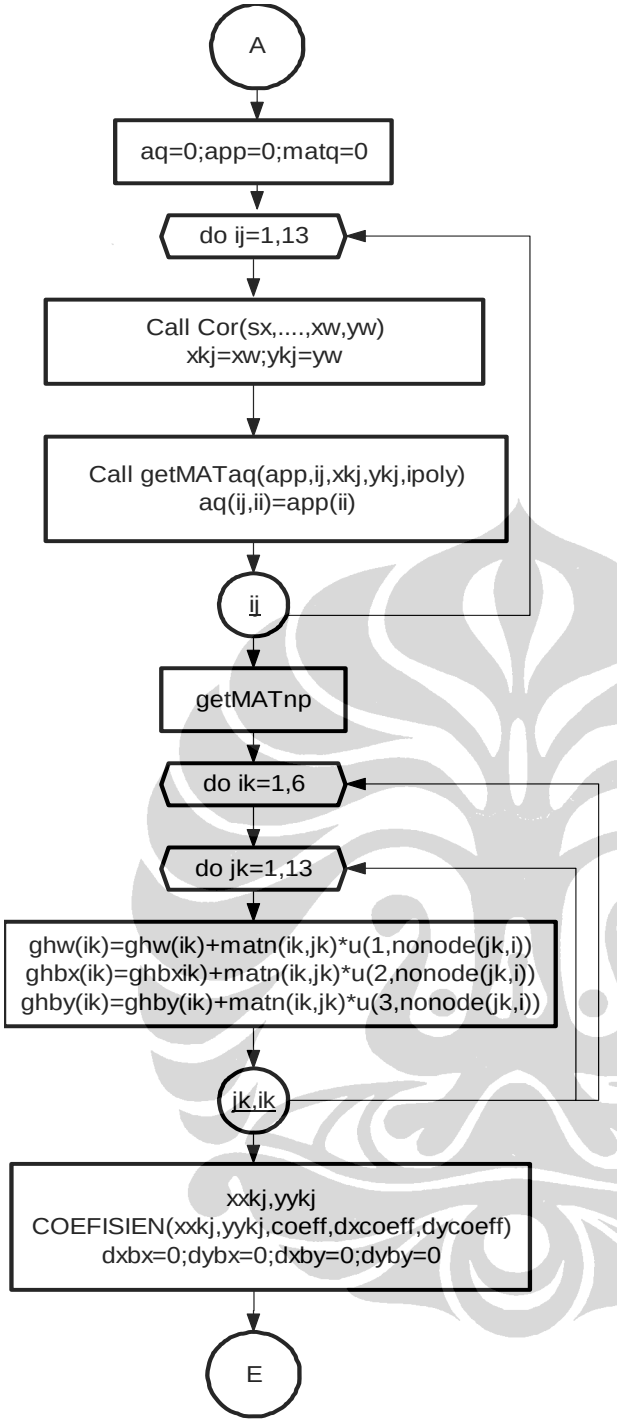
FLOW CHART PPR





Seluruh Node dalam Patch

$$P(\xi,\eta) = \langle 1 \quad \xi \quad \eta \quad \xi^2 \quad \xi\eta \quad \eta^2 \rangle$$

$$[Q] = \begin{bmatrix} \langle P(\xi,\eta)_1 \rangle \\ \langle P(\xi,\eta)_2 \rangle \\ \cdot \\ \cdot \\ \cdot \\ \langle P(\xi,\eta)_n \rangle \end{bmatrix}_{nx6}$$

Matriks Np

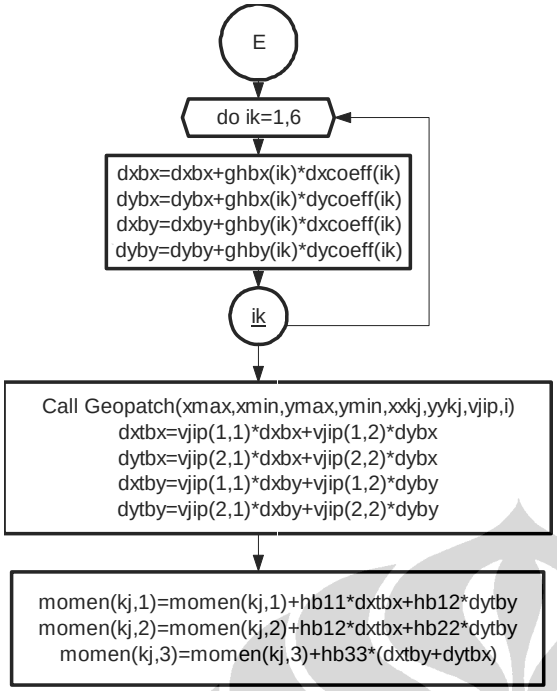
$$[A_p] = \left[[Q]^T [Q] \right]^{-1} [Q]^T$$

Menghitung {a} untuk w, rotasi x dan rotasi y dimana :

$$\{a\} = \left[A_p \right] \{u_n\} = \left[[Q]^T [Q] \right]^{-1} [Q]^T \{u_n\}$$

Menghitung koefisien polinomial dan turunannya terhadap qsi dan eta (natural)

$$Coeff = P(\xi,\eta)$$
$$dxcoeff = P(\xi,\eta)_{,\xi}$$
$$dycoeff = P(\xi,\eta)_{,\eta}$$



$$\{\beta_{x,\xi}{}^{*}\} = \left\langle N_{p,\xi} \right\rangle \{\beta_{xn}\} \qquad \{\beta_{y,\xi}{}^{*}\} = \left\langle N_{p,\xi} \right\rangle \{\beta_{yn}\}$$

$$\{\beta_{x,\eta}{}^{*}\} = \left\langle N_{p,\eta} \right\rangle \{\beta_{xn}\} \qquad \{\beta_{y,\eta}{}^{*}\} = \left\langle N_{p,\eta} \right\rangle \{\beta_{yn}\}$$

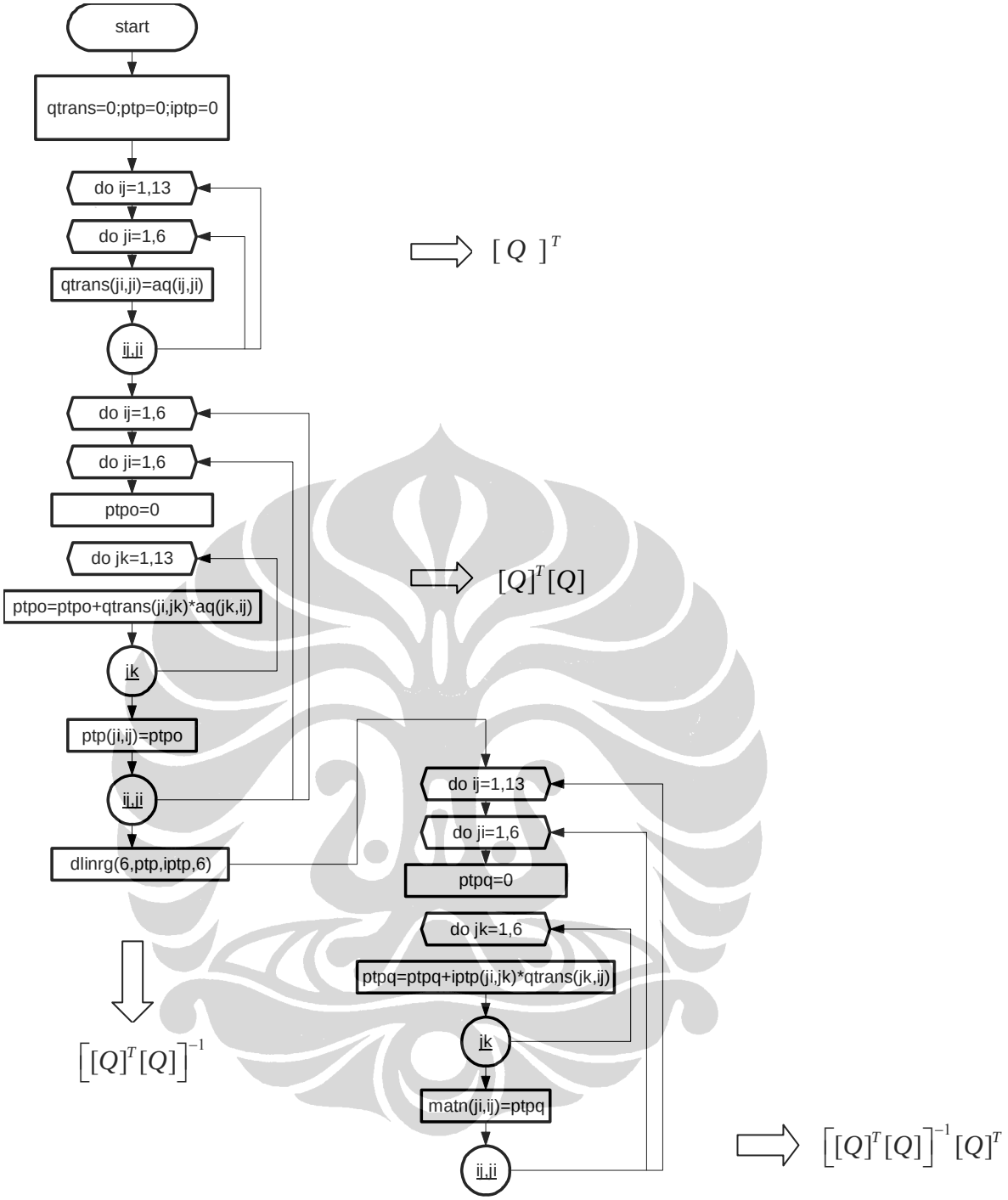
$$\{\beta_{x,x}{}^{*}\} = j_{11}\{\beta_{x,\xi}{}^{*}\} + j_{12}\{\beta_{x,\xi}{}^{*}\}$$

$$\{\beta_{x,y}{}^{*}\} = j_{21}\{\beta_{x,\xi}{}^{*}\} + j_{22}\{\beta_{x,\xi}{}^{*}\}$$

$$\{\beta_{y,x}{}^{*}\} = j_{11}\{\beta_{y,\xi}{}^{*}\} + j_{12}\{\beta_{y,\xi}{}^{*}\}$$

$$\{\beta_{y,y}{}^{*}\} = j_{21}\{\beta_{y,\xi}{}^{*}\} + j_{22}\{\beta_{y,\xi}{}^{*}\}$$

$$\begin{Bmatrix} M_x \\ M_y \\ M_{xy} \end{Bmatrix} = [H_b] \begin{Bmatrix} \chi_x \\ \chi_y \\ \chi_{xy} \end{Bmatrix} = [H_b] \begin{Bmatrix} \beta_{x,x} \\ \beta_{y,y} \\ \beta_{x,y} + \beta_{y,x} \end{Bmatrix}$$


start
qtrans=0;ptp=0;iptp=0
do ij=1,13
do ji=1,6
qtrans(ji,ji)=aq(ij,ji)
ij,ji
$[Q]^T$
do ij=1,6
do ji=1,6
ptpo=0
do jk=1,13
ptpo=ptpo+qtrans(ji,jk)*aq(jk,ij)
jk
ptp(ji,ij)=ptpo
ij,ji
dlinrg(6,ptp,iptp,6)
$[Q]^T[Q]$
$\left[[Q]^T[Q]\right]^{-1}$
do ij=1,13
do ji=1,6
ptpq=0
do jk=1,6
ptpq=ptpq+iptp(ji,jk)*qtrans(jk,ij)
jk
matn(ji,ij)=ptpq
ij,ji
$\left[[Q]^T[Q]\right]^{-1}[Q]^T$