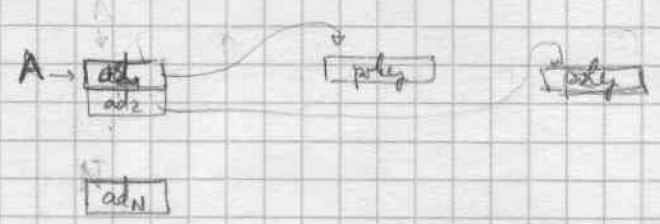
# Calcul determinant ( det )

permutation

$D_{ij} = \begin{cases} 0 \\ k \end{cases}$ de 1 à N

$i \neq j$
de 1 à n




$\pi(i)$ n.W

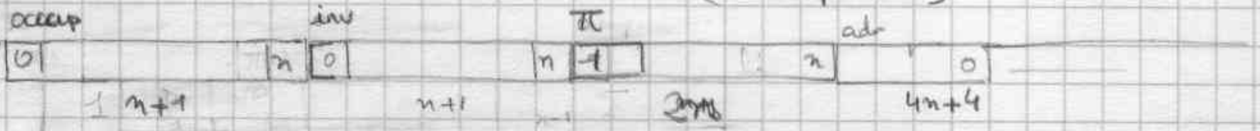
$inv(i)$ n.B $(inv(0) = 0)$

$occup(i)$ n.B

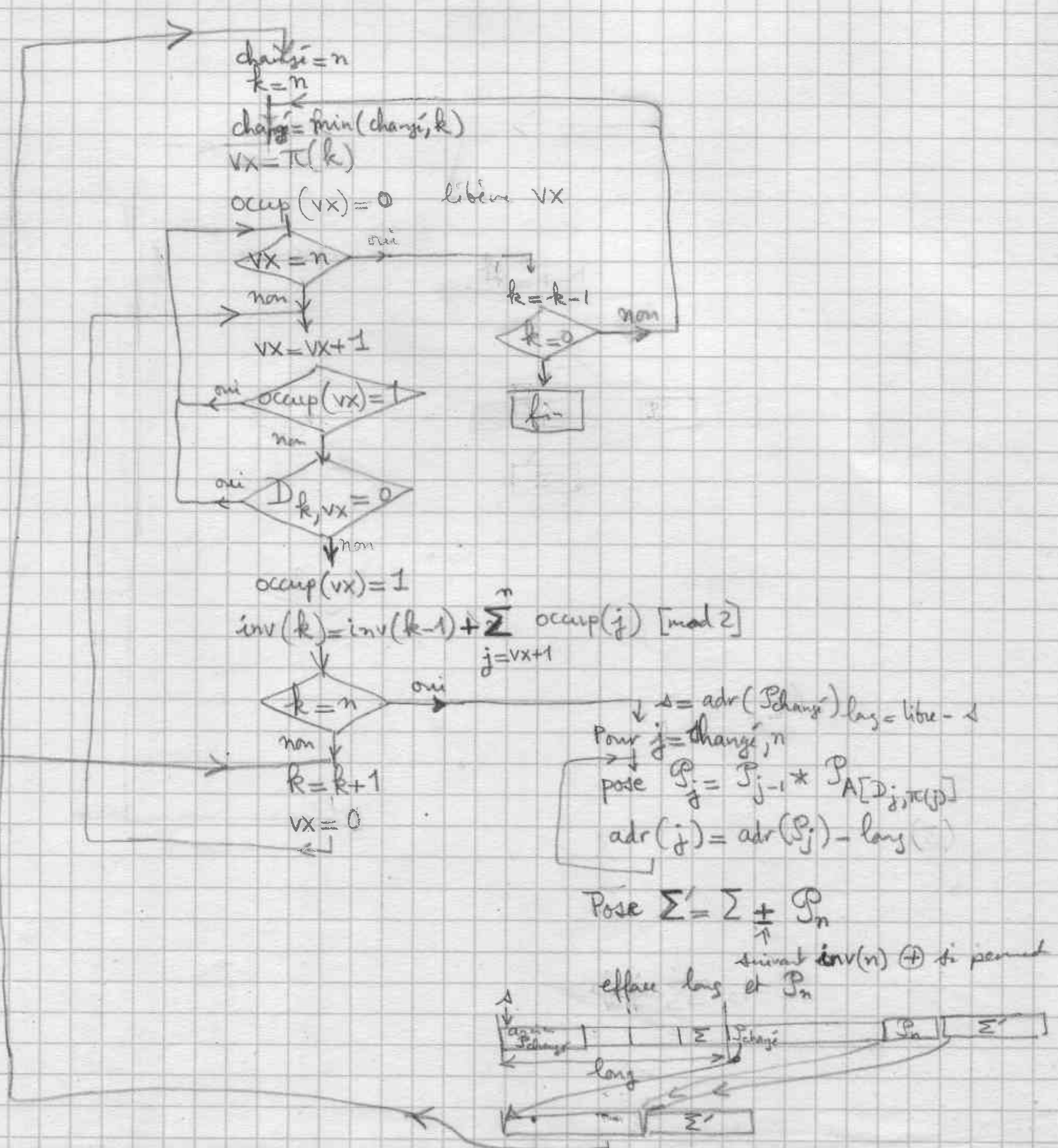
$adr(i)$ n.L

print $\mathcal{P}_i = \prod_{k=1}^{i} D_{k\pi(k)}$

(adr(0) printe 1)




adr(0) = printe 1
adr(n) = adr(Σ)
adr(1) = adr(Σ)
libre
$\boxed{\Sigma = 0}$
inv(0) = 0
occup(i) = 0 (i = 1 à n)
changé = 1
k = 0



p116-7 **Calcul du déterminant (XDT$^{N}_{F}$)**

$\det(a_{ij})$ $1 \leq {i \atop j} \leq n$ $a_{ij}$ : poly

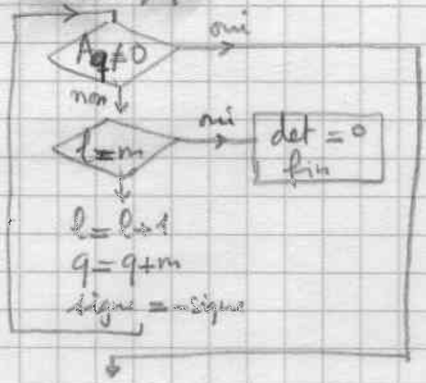
D1 [init] Poser $n^2+1$ poly : $\underbrace{div=1}_{A_0}$, $\underbrace{a_{11}}_{A_1}$, $\underbrace{a_{12}}_{A_2}$ … $a_{1n}$, $a_{21}$ … $a_{2n}$ … $a_{n1}$ … $a_{nn}$

$m = n$

Signe $= 1$

D2 si $m = 1$ det = signe $*$ $A_1$ ; fin

D3 [pivot] $l = 1$, $q = 1$




D3 [Calcul des $(m-1)^2+1$ nouveaux $A_i$ (appelés $B_i$)]

$B_0 = A_q$ (diviseur)

$r = 0$, $v = 1$

Pour $j = 1, 2 \ldots \hat{l} \ldots m$ (sauter $j = l$)

si $j = l$ : $v = v+m$

$w = v$ (correspond à $A_{j1}$) $s = q$ (correspond à $A_{q1}$)

Pour $i = 2, 3 \ldots m$

$v = v+1$

~~$s = s+1$~~

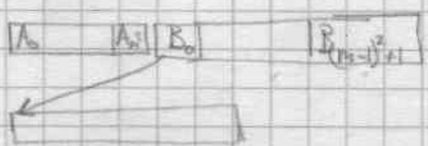
[$r = r+1$] poser $B_r = \dfrac{\overset{a_{q1}\,a_{ki} \,-\, a_{k1}\,a_{qi}}{A_q A_v - A_w A_s}}{A_0}$ (division exacte)

next i

next j

D4

effacer les anciens $A_0$ … $A_{m^2}$,




$m = m-1$

aller en D2