$z_n = \begin{pmatrix} 1 \\ 0 \\ 0 \\ \vdots \\ 0 \end{pmatrix} \Big\} K$ $\begin{pmatrix} 0 \\ 1 \\ 0 \\ \vdots \\ 0 \end{pmatrix}$ → n pertenece a la componente 2 ($k=2$)

$z_n = 2$

$=$

$\boxed{K=3}$

$z_n = \begin{pmatrix} 0.2 \\ 0.5 \\ 0.3 \end{pmatrix} \begin{matrix} \leftarrow k=1 \\ \leftarrow k=2 \\ \leftarrow k=3 \end{matrix}$

$z_n = \begin{pmatrix} 0.2 \\ 0.5 \\ 0.3 \end{pmatrix} \Big\} K$ (columnas: $n=1$ … N)

$$p(c|x) = \frac{p(c) \cdot p(x|c)}{\sum_{c'} p(c') \cdot p(x|c')}$$

$$Z = \begin{pmatrix} 0.2 & 0.1 & 0.2 & 0.3 & 0.8 \\ 0.5 & 0.8 & 0.2 & 0.3 & 0.1 \\ 0.3 & 0.1 & 0.6 & 0.4 & 0.1 \end{pmatrix}$$

$K = 3$

$n=1 \quad n=2 \quad n=3 \quad n=4 \quad n=5$

X_1

$$X = \begin{bmatrix} \\ \\ \\ \\ \\ \end{bmatrix}$$

$$0.2 \cdot \begin{bmatrix} 0 \\ 0 \\ 0.1 \\ \vdots \\ 0 \end{bmatrix} = \begin{bmatrix} 0.2 \cdot x \\ 0.2 \cdot \\ 0.2 \\ \vdots \end{bmatrix}$$

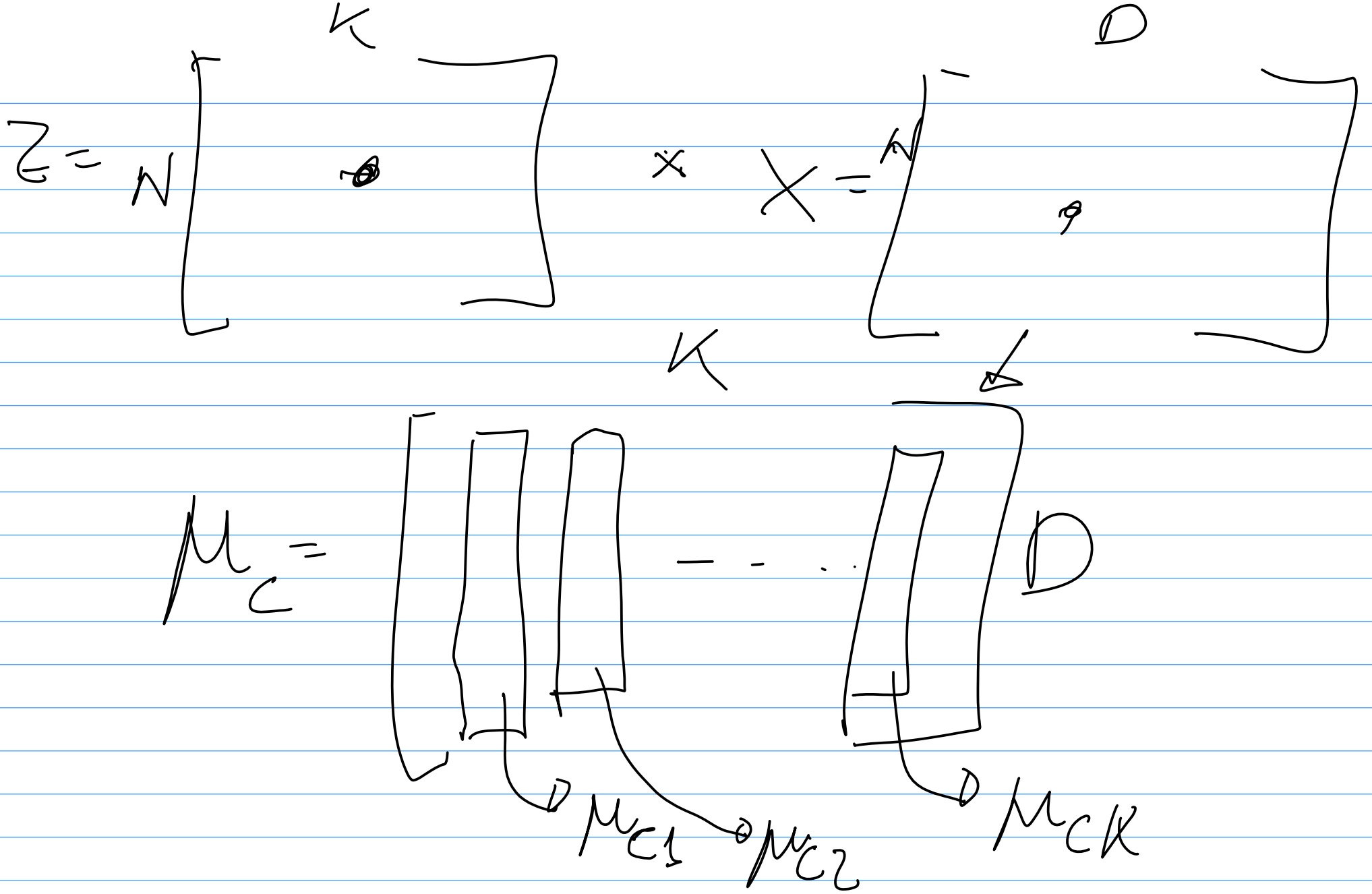
$$P_C = \frac{N_C}{N}$$

$$P_{CK} = \frac{1}{N_C} \cdot \sum_n Z_{nK}$$

$$P_{C1} = \frac{0.2 + 0.1 + 0.2 + 0.3 + 0.8}{5}$$

$$M_{C1} = \frac{0.2 \cdot X_1 + 0.1 \cdot X_2 + 0.2 X_3 + 0.3 \cdot X_4 + 0.8 X_5}{0.2 + 0.1 + 0.2 + 0.3 + 0.8}$$

$$0.2 \cdot \begin{bmatrix} X_1 \\ \vdots \end{bmatrix} + 0.1 \cdot \begin{bmatrix} X_2 \\ \vdots \end{bmatrix} + 0.2 \cdot \begin{bmatrix} X_3 \\ \vdots \end{bmatrix} + \dots\dots$$


Z =
N
K
0
×
X =
N
D
0
M_C =
K
D
M_{C1}
M_{C2}
M_{CK}