



	cat1	cat2	cat3	P(row)
cat1	$\begin{bmatrix} p_{11} \\ p_{11} \end{bmatrix}$	$\begin{bmatrix} p_{12} \\ p_{12} \end{bmatrix}$	p_{13}	=1
cat2	p_{21}	p_{22}	p_{23}	=1
cat3	0	0	p_{33}	=1