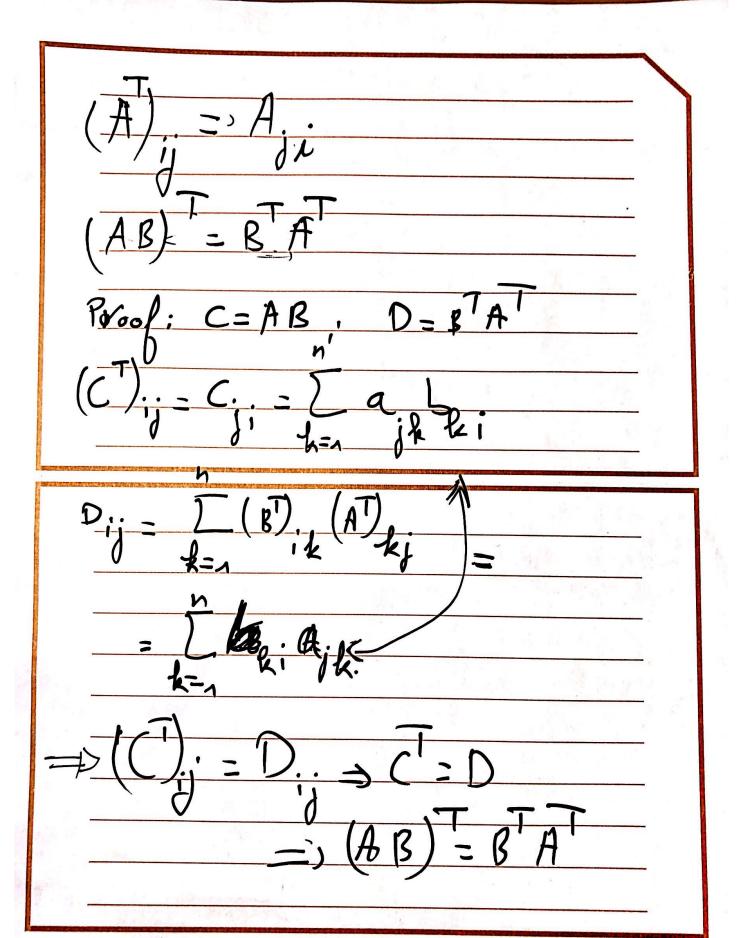
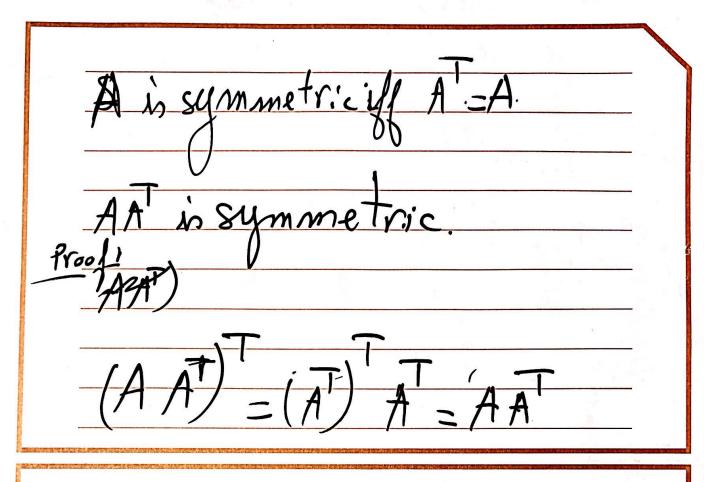
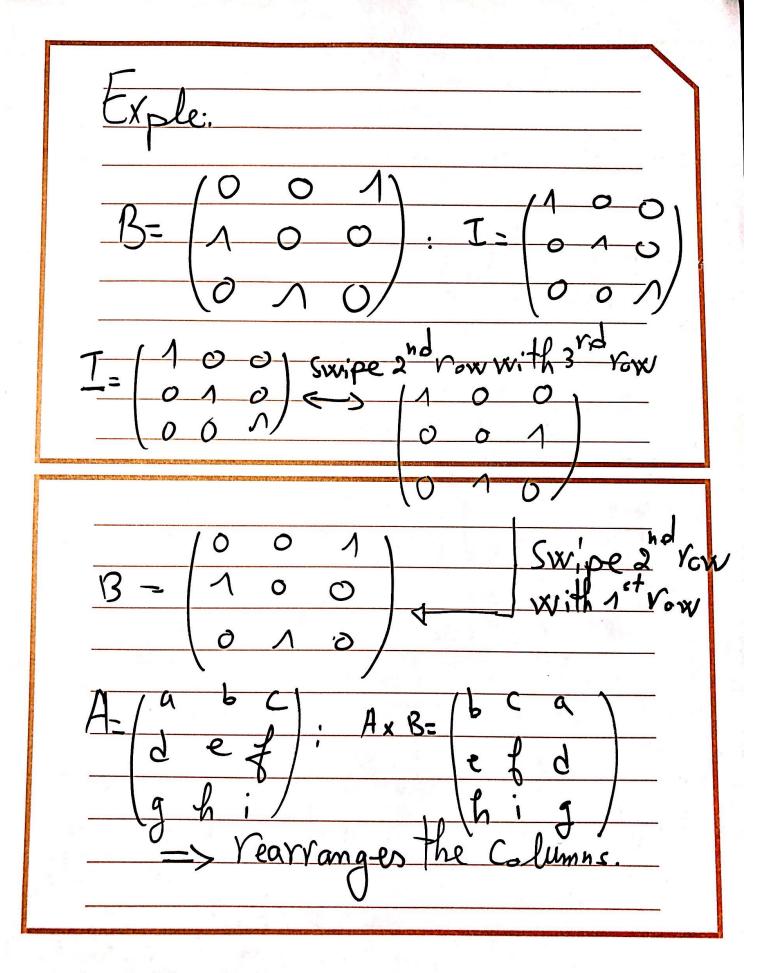


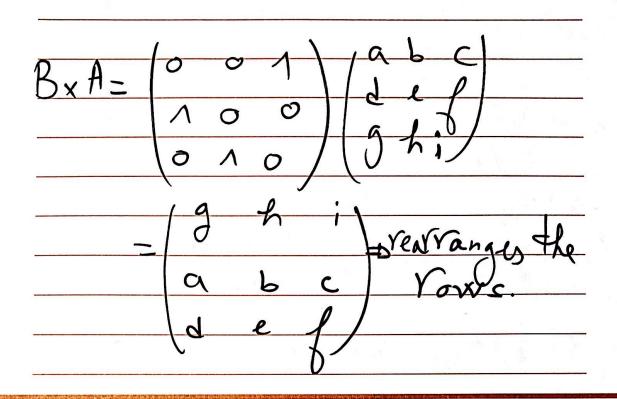
$$A_1 \cap A_2 \cap B_2 \cap A_3 \cap A_4 \cap A_4$$





Permutation matrix:	
Every row and every columns has exactly one of and	
Remouning elements are"	





Inverse of a matrix:
AER
A is invertible if there exists BER
Such that AB=BA=I
We denote B=A-1

$$\frac{\text{Exple:}}{n=d; \ a\neq 0 \Rightarrow a^{-1} = \frac{1}{a}}$$

$$n=2: A=\begin{pmatrix} a & b \\ c & d \end{pmatrix}, \ ad_{-bc}\neq 0$$

$$A^{-1}=\begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$$

$$ad_{-bc}\begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$$

$$(AB)^{-1} = B^{-1}A^{-1}$$
 $Proof: (AB)(B^{-1}A^{-1}) = ABB^{-1}A^{-1}$
 $\Rightarrow (AB) = B^{-1}A^{-1} = I$
 $(AT)^{-1} = (A^{-1})^{T}$
 $Proof: A^{T} \times (A^{-1}) = (A^{-1}A) = I$