

Q $A = \begin{pmatrix} 1 & 1 & 1 \\ 2 & 4 & 1 \\ 2 & 3 & 1 \end{pmatrix}$ $B = \begin{pmatrix} 2 & 3 \\ 3 & 4 \end{pmatrix}$, find matrix P s.t

$BPA = \begin{pmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix}$

Ans.

$$IPA = B^{-1}C$$

$$IPA_{3 \times 3} = D_{2 \times 2}$$

$$IPAA^{-1} = DA^{-1} \Rightarrow IP = (DA^{-1})_{2 \times 3}$$

$\begin{matrix} 2 \times 2 \downarrow & \downarrow \\ 2 \times 2 & 2 \times 2 \end{matrix}$

$$P = (DA^{-1})$$