Important matrix tip for inverse of matrix:

SHORT TRICK TO FIND INVERSE OF 3 × 3 MATRIX

To find inverse of $A = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$

STEP 1

```
a  b  c  a  b
d  e  f  d  e
g  h  i  g  h
```

Copy Ist column and IInd column

STEP 2

```
a  b  c  a  b
d  e  f  d  e
g  h  i  g  h
a  b  c  a  b
d  e  f  d  e
```

Copy Ist row and IInd row form step 1

STEP 3

```
a  b  c  a  b
d  e  f  d  e
g  h  i  g  h
a  b  c  a  b
d  e  f  d  e
```

Neglect first row

From up to down arrow take positive sign

From down to up arrow take negative sign

Neglect first column

$$A^{-1} = \frac{1}{|A|} \begin{bmatrix} ei-hf & fg-id & dh-eg \\ hc-bi & ai-cg & bg-ah \\ bf-ec & cd-af & ae-bd \end{bmatrix}^{T} = \begin{bmatrix} ei-hf & hc-bi & bf-ec \\ fg-id & ai-cg & cd-af \\ dh-eg & bg-ah & ae-bd \end{bmatrix}$$