LATEX ASSIGNMENT

ANAND

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EXERCISE 12.4.4

Write Minors and Cofactors of the elements of following determinants:

1. (i) $\begin{vmatrix} 2 & -4 \\ 0 & 3 \end{vmatrix}$

   (ii) $\begin{vmatrix} a & c \\ b & d \end{vmatrix}$

2. (i) $\begin{vmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{vmatrix}$

   (ii) $\begin{vmatrix} 1 & 0 & 4 \\ 3 & 5 & -1 \\ 0 & 1 & 2 \end{vmatrix}$

3. Using cofactors of elements of third column, evaluate $\Delta = \begin{vmatrix} 5 & 3 & 8 \\ 2 & 0 & 1 \\ 1 & 2 & 3 \end{vmatrix}$

4. Using cofactors of elements of third column, evaluate $\Delta = \begin{vmatrix} 1 & x & yz \\ 1 & y & zx \\ 1 & z & xy \end{vmatrix}$

5. If $\Delta = \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$ and A_{ij} is cofactors of A_{ij}, then value of Δ is given by

   (i) $a_{11}A_{31} + a_{12}A_{32} + a_{13}A_{33}$

   (ii) $a_{11}A_{11} + a_{12}A_{21} + a_{13}A_{31}$

   (iii) $a_{21}A_{11} + a_{22}A_{12} + a_{23}A_{13}$

   (iv) $a_{11}A_{11} + a_{21}A_{21} + a_{31}A_{31}$