

Step-1

Given that the entries of A are a_{ij} and we have to use the subscript notation.

Step-2

(a) We have to use the subscript notation to write the first pivot.

Since the first pivot is the first row and first column element we can write it as

$$\boxed{a_{11}}.$$

Step-3

(b) We have to use the subscript notation to write the multiplier l_{i1} of row 1 to be subtracted from row i .

For row i we use the notation a_{i1} .

Since the multiplier l_{i1} of a_{i1} is subtracted from i th row, we can write it as

$$\boxed{l_{i1} = a_{i1} / a_{11}}.$$

Step-4

(c) We have to use the subscript notation to write the new entry that replaces a_{ij} after that subtraction.

For this we subtract $\frac{a_{i1}}{a_{11}} a_{1j}$ from a_{ij} i.e. $\boxed{a_{ij} - \frac{a_{i1}}{a_{11}} a_{1j}}$

Step-5

(d) We have to use subscript notation to write second pivot.

Putting $i = 2$ (for second row) in $a_{ij} - \frac{a_{i1}}{a_{11}} a_{1j}$ we get $a_{22} - \frac{a_{21}}{a_{11}} a_{12}$ which is the required second pivot.