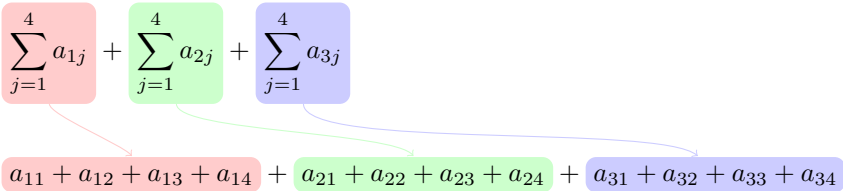


$$\sum_{i=1}^3 \sum_{j=1}^4 a_{ij} = \sum_{j=1}^4 a_{1j} + \sum_{j=1}^4 a_{2j} + \sum_{j=1}^4 a_{3j}$$

$$= a_{11} + a_{12} + a_{13} + a_{14} + a_{21} + a_{22} + a_{23} + a_{24} + a_{31} + a_{32} + a_{33} + a_{34}$$

The diagram illustrates the process of expanding a double summation. The first line shows the summation $\sum_{i=1}^3 \sum_{j=1}^4 a_{ij}$ being equal to the sum of three single summations: $\sum_{j=1}^4 a_{1j}$ (highlighted in a red box), $\sum_{j=1}^4 a_{2j}$ (highlighted in a green box), and $\sum_{j=1}^4 a_{3j}$ (highlighted in a blue box). The second line shows the expanded form of these summations: $a_{11} + a_{12} + a_{13} + a_{14}$ (red box), $a_{21} + a_{22} + a_{23} + a_{24}$ (green box), and $a_{31} + a_{32} + a_{33} + a_{34}$ (blue box). Colored arrows connect the boxed summations in the first line to their corresponding expanded forms in the second line.