République Algérienne Démocratique et Populaire
Ministère de l'Enseignement Supérieur





الجمهورية الجزائرية الديمقراطية الشعبية وزارة التعليم العالي والبحث العلم الآلي المدرسة العليا للإعلام الآلي 8 ماي 1945 - سيدي بلعباس

<u>Data Analysis</u> Tutoriel: 4

Correspondances analysis

Tutoriel

We consider the following data matrix of type (3,2)

$$\begin{pmatrix} 1/6 & 1/6 \\ 1/12 & 1/4 \\ 1/4 & 1/12 \end{pmatrix}$$

These data are processed by a Correspondence Analysis.

- Give the marginal probabilities.
- Calculate the distance χ^2 between the categories,
- Determine the matrix of variances-covariance W and the matrix R.
- Determine the variabilty explained.

\mathbf{PW}

The following table represents hair colour and eye colour in a sample of 592 individuals.

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	Brown	dark	red	blond
brown	68	119	26	7
hazel	15	54	14	10
green	5	29	14	16
blew	20	84	17	94

Apply the CA of the following matrix (by using the library FactoMineR).