

## Data Analysis 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  $\chi^2$  between the categories,
- Determine the matrix of variances-covariance W and the matrix R.
- Determine the variability explained.

#### PW

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

	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).