The main module is the module **NEdistW**, which has 3 or 4 mandatory arguments, depending on the test being used. This module is able to compute either the characteristic function (c.f.), the probability density function (p.d.f.) or the cumulative distribution function (c.d.f.), according to the value of an optional argument that may be used. By default the module will compute the c.d.f.. The mandatory arguments for this module are (and have to be provided in this order):

- **n** – the sample size;
- **p** – the number of variables involved, or, for the test of independence of several sets of variables, a list with the number of variables in each set (ex: {5,6,7}, in case we have 3 sets of variables, the first one with 5 variables, the second with 6 and the third with 7)
- **q** – the number of mean vectors or matrices to test (only to be provided for the tests of equality of mean vectors or covariance matrices)
- **x** – the value for the running variable in the c.f., p.d.f. or c.d.f., which may be left unspecified, that is, without a given numerical value, in case the aim is to plot or to obtain a general specification for the desired function.

The optional arguments for this module are (they may be given in any order, but have to be fully specified by name, see the example of a command after this block):

- **stat** – the l.r.t. statistic for which we want a near-exact approximation (with default value 1):
  - 1 – for the l.r.t. statistic to test the independence of several sets of variables
  - 2 – for the l.r.t. statistic to test the equality of several mean vectors
  - 3 – for the l.r.t. statistic to test sphericity
  - 4 – for the l.r.t. statistic to test the equality of several covariance matrices
- **function** – the function to be computed (with default value 1):
  - 1 – for the c.d.f.
  - 2 – for the p.d.f.
  - 3 – for the c.f.
- **dist** – the near-exact distribution to be used (with default value 1):
  - 1 – for the near-exact distribution that equates only 2 exact moments
  - 2 – for the near-exact distribution that equates 4 exact moments
  - 3 – for the near-exact distribution that equates 6 exact moments
- **ad** – fine tuning parameter for the computation of the parameters for the near-exact distribution which equates 6 exact moments, corresponding to the choice of **dist->**3 above (usually it will be given a value between -2 and 2, in case the computation of the parameters for the near-exact distribution does not converge; default value: 0)
- **prcm** – precision (number of digits) used to compute the moments required to build the near-exact distribution (default value: 300)
- **prcpar** – precision (number of digits) used to compute the parameters for the near-exact distribution that equates 6 exact moments, corresponding to the choice of **dist->**3 above (default value: 200)
- **prcf** – precision (number of digits) used to display the output (default value: 16)

In case an erroneous value is given for **dist** or **stat**, the module does not give any result and in case an erroneous value is given for **function**, the module computes the c.d.f.

All the other modules are called from within the main module **NEdistW** and follow closely the notation used in the manuscript.