

Basic R Programming

Case study:

Master Programmes Admission

(simplified version - no positions for tuition fee studies)

Given two data frames stored as an `.Rdata` file `master_admiss1.Rdata` - see `DataSets` directory on GitHub:

<https://github.com/marinfotache/Data-Processing-Analysis-Science-with-R/tree/master/DataSets>

Data frame **master_progs** stores every program abbreviation, name, and the number of available positions:

master_progs

- prog_abbreviation
- prog_name
- n_of_positions

Data frame **applicants** stores information about applicants:

- "prog1_abbreviation", "prog2_abbreviation", ... describes applicant preferences (she/he wants to be accepted at "prog1_abbreviation", but if her/his results are not good enough for this program, she/he would prefer "prog2_abbreviation", etc.)
- "grades_avg" refers to applicant's grades average (first part of the acceptance criteria for all master programmes)
- "dissertation_avg" refers to applicant's dissertation average (the other part of the acceptance criteria for all master programmes)

applicants:

- applicant_id
- applicant_name
- grades_avg
- dissertation_avg

- prog1_abbreviation
- prog2_abbreviation
- prog3_abbreviation
- prog4_abbreviation
- prog5_abbreviation
- prog6_abbreviation

Write the R modules for assigning each applicant to one of her/his programme options, according to the points average and create data frame `results`:

results

- applicant_id
- prog_abbreviation_accepted

Students ranking depends on the applicants' admission average points which are computed as

$$\text{grades_avg} * 0.6 + \text{dissertation_avg} * 0.4$$

- Version 1 of the solution will not use any user-defined functions
- Version 2 of the solution will use (at will) user-defined functions