The academic world is an interesting example of international cooperation and exchange. This problem is concerned with modeling of a database that contains information on researchers, academic institutions, and collaborations among researchers. A researcher can either be employed as a professor or a lab assistant. There are three kinds of professors: Assistant, associate, and full professors. The following should be stored:

- For each researcher, his/her name, year of birth, and current position (if any).
- For each institution, its name, country, and inauguration year.
- For each institution, the names of its schools (e.g. School of Law, School of Business, School of Computer Science,...). A school belongs to exactly one institution.
- An employment history, including information on all employments (start and end date, position, and what school).
- Information about co-authorships, i.e., which researchers have co-authered a research paper. The titles of common research papers should also be stored.
- For each researcher, information on his/her highest degree (BSc, MSc or PhD), including who was the main supervisor, and at what school.
- For each professor, information on what research projects (title, start date, and end date) he/she is involved in, and the total amount of grant money for which he/she was the main applicant.
    a. Draw an E/R diagram for the data set described above. Make sure to indicate all cardinality constraints specified above. The E/R diagram should not contain redundant entity sets, relationships, or attributes. Also, use relationships whenever appropriate. If you need to make any assumptions, include them in your answer.
    b. Convert your E/R diagram from question a) into relations