

Sample Scenarios for ERD

Draw ERD and transform the ERD into relation schema for the following questions:

Q. 1: A person is described by id, name as first name, middle name, last name, multiple qualifications and multiple trainings, present address (street no, street name, city) and permanent address (street no, street name, city).

Q. 2: There are many teachers in the university. Teacher has Id, name, salary. Among the teachers, Head of the department is appointed for a certain period of time (start date and end date). A teacher may be appointed Head many times. In different times, different teachers are appointed as Head.

Q3: A club can have many players and a player can join only one club for a period of time with a start date and end date. After completion of period, the player can join another club. A club has id, name and date of establishment. A Player has id, p-name and date of birth.

Q.4: A teacher can teach many courses and a course is taught by exactly one teacher. A teacher has id, name and degree. A course has course-id, title and credit.

Q.5: There are many football teams participated in world cup 2018. A team has id and country. A team plays with another team in a particular date and a title of the play e.g., round 1, semi-final etc.

Q6. Many to Many relationship with descriptive attributes:

A teacher can teach many courses and a course can be taught by many teachers. A course has course_id, title and credit_hour and a teacher has T_id, name, designation salary. You have to record the semester and year of teaching of these courses by the teachers.

Draw the ERD and transform the ERD into relation schema.

Q7: One to many or Many to one relationship

A mother can have many children and a child must have only one mother. A mother has NID, name, street, city. A child has birth registration number (BRN), date of birth, height and weight.

Draw the ERD and transform the ERD into relation schema.

Q8: One to one relationship

An apartment can be owned by exactly one person and a person can own maximum one apartment. There are many persons having no apartment. A person has NID, name, date of birth, street, city and income. An apartment has app_id, size, app_name, floor_number, location and price.

Draw the ERD and transform the ERD into relation schema.

Q9: Total and partial participation

An instructor can advise many students but a student must have exactly one adviser. An instructor has id, name, dept_name and salary. A student has id, name, street, city, CGPA and tot_credit.

Draw ERD showing total and partial participation and transform the ERD into relation schema.

Q10: ERD with complex constraints

A student can enroll a maximum of 45 courses and a minimum of 3 courses. A course can be enrolled by minimum 15 students and a maximum of 35 students. A student has id, name, street, city, CGPA and tot_credit. A course has course_id, title and credit_hour.

Draw the ERD and transform the ERD into relation schema.