

## Data modeling using the Entity-Relationship Model

**Exercise:** Consider the following university management system and

I. Create Entity-relationship diagram both on a piece of paper and MySQL workbench.

II. Identify entity types, attributes, candidate keys, any relationships, cardinality ratios, and total and partial participation between different entities.

III. State any assumptions that you make while drawing the ERD.

- The university has many departments of various disciplines, each having a unique department id and a unique name. Each department has many faculty members with a unique faculty id and a name.
- Many students are enrolled in the university and belong to a certain department. Each student has a unique roll no., a name, and a session in which the student took admission in the university.
- Many courses are offered by a single department. A course, with a unique course id, name, and credit hours, can have many sections.
- Each student is enrolled in various sections (one section per course) at one time. Each section has a unique section id and a limited capacity.