1. A university wants to set up a database to record details about its staff, and the departments they belong to. They intend to record the following information.

1. For each member of staff, their staff identity number, name, job title, and salary.
2. For each department, its name and address.
3. For each member of staff, all departments that they belong to. It is required that every member of staff belongs to at least one department.
4. For each department, the head of department. It is required that each department has exactly one head of department.

(a) Draw an ER diagram that expresses the requirements for the database. Make sure that you capture all the constraints on the data mentioned above.



2. The organisers of the EXAM 2011 international multi-conference need to keep track of a large collection of workshops associated with the event. Initial requirements analysis brings out the following information about what needs to be recorded.

1. Each workshop has a name, and happens on a particular date | or dates, as some

Workshops last more than one day.

1. There are several participants, each of which may sign up to one or more workshops.
2. For each participant, it is important to record their name, email address, and the workshops which they wish to attend.
3. There are a number of meeting rooms at the conference venue, each of a fixed capacity.
4. Meetings rooms are identified by a floor and room number.
5. Every workshop needs an allocated meeting room; where a workshop lasts for two days, it will use the same room on both days.

