ER Modelling Exercise - SMCSE
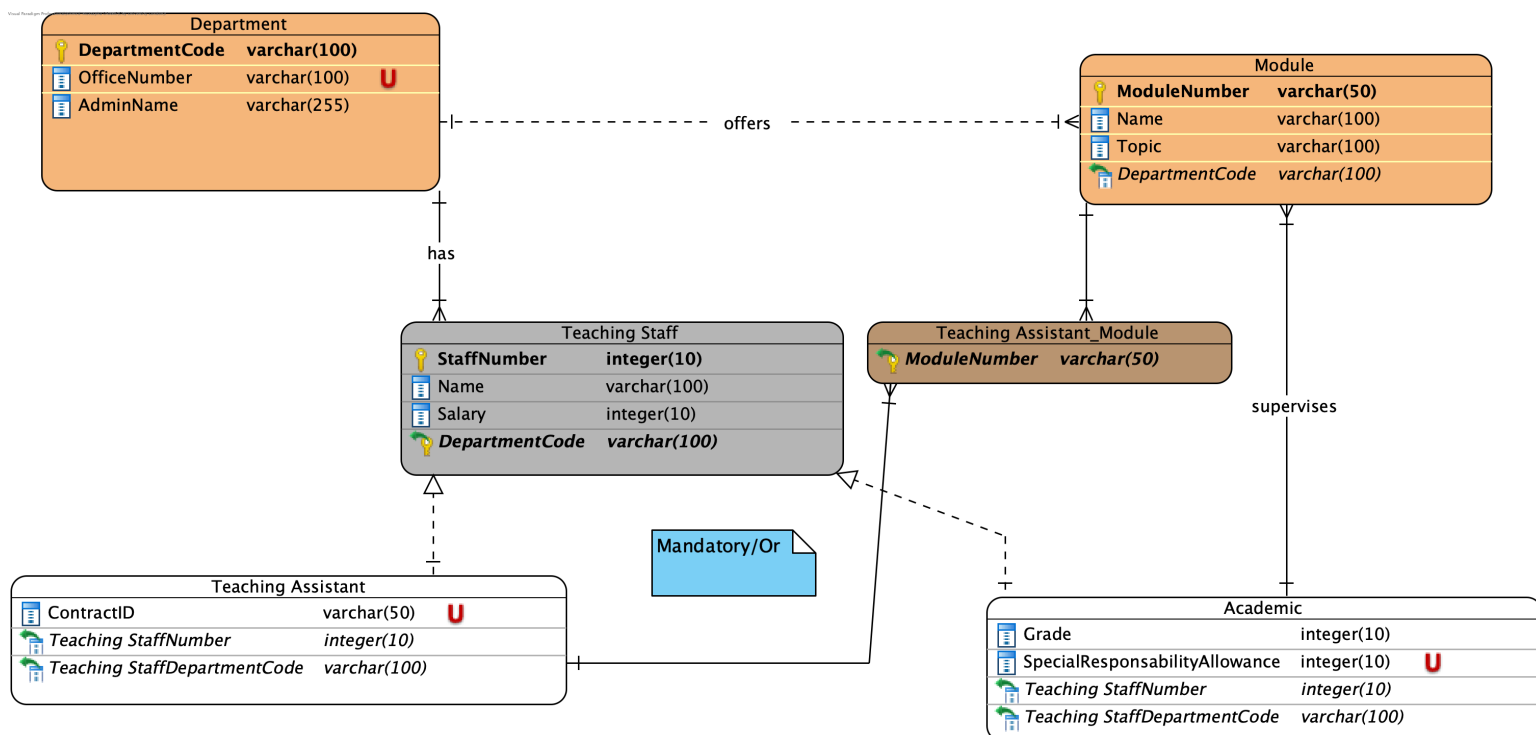
The School of Mathematics, Computer Science and Engineering is composed of several departments. Each department is identified by a code, has a departmental office (office number) and a departmental administrator (administrator name). Each department has teaching staffs that teach modules. Each teaching staff member has a staff number, a name, and a salary. Teaching staff are either Academics or Teaching Assistants. Academics have grades, while Teaching Assistants have contracts (Contract Number). Most Academics are responsible for one or more modules (module number, module name, topic), and a module is the responsibility of only one Academic. Teaching Assistants must assist with teaching one or more modules.
Module can have several Teaching Assistants. In each department, one of the Academics acts as the Head of Department, and they have a special responsibility allowance.

Design an E-R diagram for the above database.

Derive a corresponding relational scheme from your E-R diagram.

E-R Diagram:

Relational scheme:

1. Department (Department_Code PK, Head_Of_Department_Staff_Number FK REFERENCES Teaching Staff (Staff_Number), Office_Number, Admin_Number)

2. Tecahing Staff (Staff_Number PK, Department_Code FK REFRENCES Department (Department_Code), Name, Salary, Type)

3. Teaching Assistant (Staff_Number PK FK REFRENCES Teaching Staff (Staff_Number), Module_Number FK REFERENCES Module (Module_Number), Contract_ID)

4. Academic (Staff_Number PK FK REFRENCES Teaching Staff (Staff_Number), Grade, Special_Responsability_Allowance)

5. Module (Module_Number PK, Staff_Number FK REFERENCES Academic (Staff_Number), Department_Code FK REFERENCES Department (Department_Code), Name, Topic)