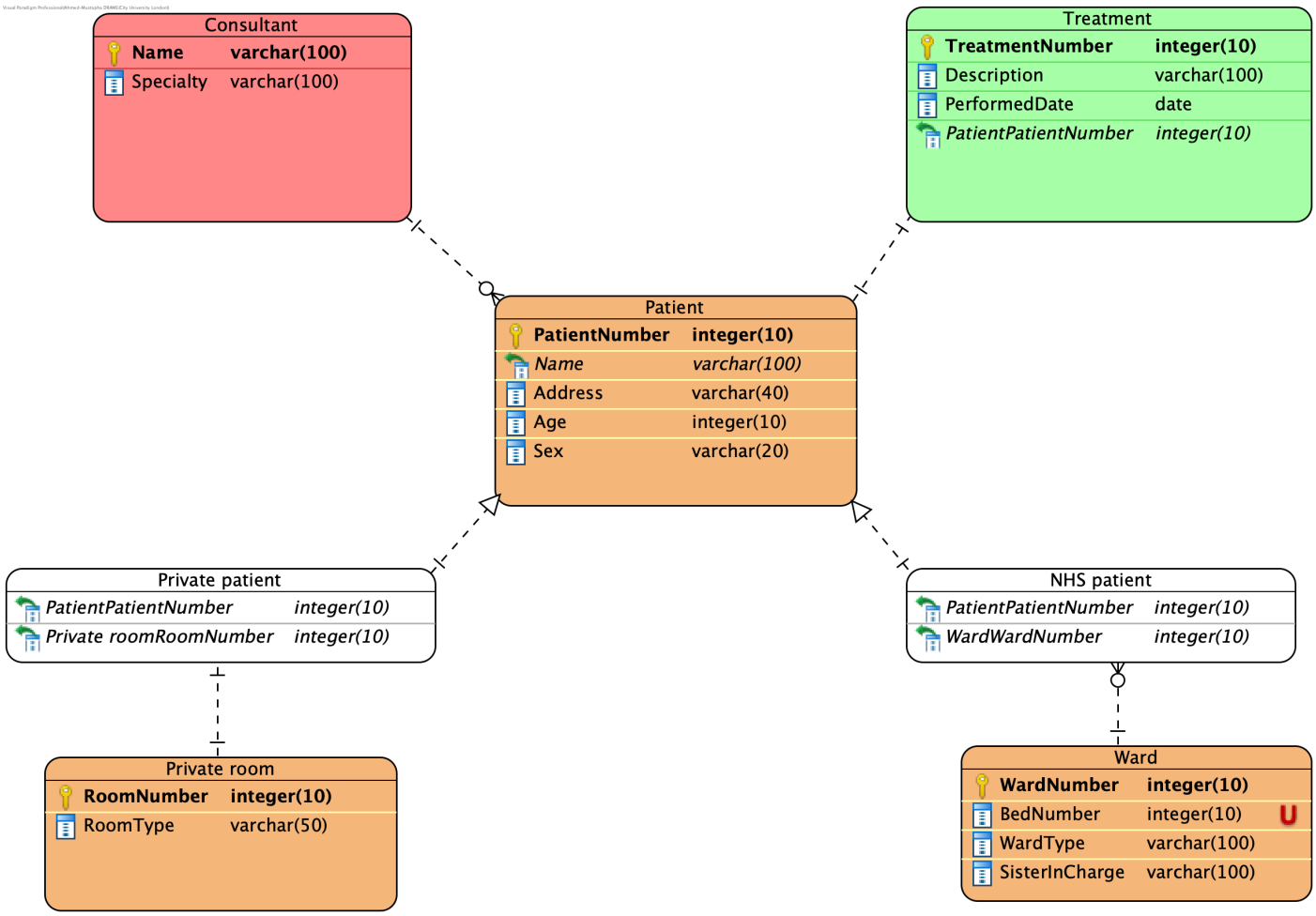
ER Modelling Exercise – Hospital

Consider the following requirements for inpatients at a hospital:

All patients admitted to the hospital are given a unique patient number. The patient's name, address, age, and sex are recorded. Private patients are allocated a private room, identified by the room number. Private rooms are of different types, e.g., standard, deluxe, palatial, etc. NHS patients are allocated a bed in a ward, beds being identified by the ward name and bed number. Wards are of different types, e.g., pediatric, cancer, etc, with a named sister in charge of each one. Each patient is allocated to a named consultant who supervises the medical care of the patient. The consultant decides on the treatments to be given to the patient. A treatment is any medical procedure performed on the patient. Each treatment is given a unique treatment number, and a description of the treatment and the date it is performed are recorded.

ER Diagram



Relational scheme 3NF:

1. Patient (Patient_Number PK, Name, Address, Age, Sex, Type)

2. Private_Room (Room_Number PK, Room_Type)

3. Ward (Ward_Name PK, Bed_Number PK, Ward_Type, Sister_In_Charge)

4. Consultant (Consultant_ID PK, Name, Specialty)

5. Treatment (Treatment_Number PK, Description, Date, Patient_Number FK)

6. Patient_Private_Room (Patient_Number FK, Room_Number FK, PRIMARY KEY (Patient_Number, Room_Number))

7. Patient_Ward (Patient_Number FK, Ward_Name FK, Bed_Number FK, PRIMARY KEY (Patient_Number, Ward_Name, Bed_Number))