multiple branches
Each dental branch has an address, phone number, and a manager.

Scenario:

Consider the following problem statement:

A dental company, “Bright Smiles”, has multiple branches (i.e., dental clinics) and would like you to create a software application to help manage the business processes and dental services. Each dental branch has an address, phone number, and a manager. A dental branch offers dental services to patients. Examples of services include cleaning, implants, crowns, fillings, and more. Each of the services has a cost. The clinic keeps track of its patients and staff. The staff includes managers, receptionists, hygienists, and dentists. The patient needs to book an appointment before coming to the clinic. Upon checkout, the clinic charges the patient depending on the services she/he has received. Also, a 5% value-added tax (VAT) is added to the final bill.

1. DentalCompany:
    i. Name: string
    ii. Associations: Branch (1 to many)
2. Branch:
    - Address
    - phone number
    - and manager.
    - dental services:List[Services]
    - staff:List[Staff]
    - patients:List[Patient]
    - Associations: DentalService (1 to many), Staff (1 to many), Patient (1 to many)
3. Services
    - Name: string
    - Cost: float
    -
4. Person:

- firstName: string
- lastName: string
- phoneNumber:string
- id: string
    a. StaffMember (inherits from Person):

i. Attributes:
ii. Manager (inherits from StaffMember):
iii. Receptionist (inherits from StaffMember):
iv. Hygienist (inherits from StaffMember):
v. Dentist (inherits from StaffMember):
vi. Patient (inherits from Person):
    - appointments: List[Appointment]

5. Appointment:
- patient: Patient
- dateTime:datetime
- services:List[Services]
- totalCost:float

Assumptions:

1. Each branch has one manager.
2. Staff members can have different roles (manager, receptionist, hygienist, and dentist).
3. A patient can book multiple appointments.
4. An appointment has one or more dental services

Relationship :

1. DentalCompany has several locations (1-to-many).
2. Branch offers a number of dental services (1-to-many).
3. The branch employs more than one staff member (1-to-many).
4. The branch has more than one Patient (1-to-many).
5. Managers, Receptionists, hygienists, and Dentists are at the top of the StaffMember hierarchy (inheritance from staff).
6. Staff members and Patients are inherited from persons.
7. A patient has multiple Appointments (1-to-many).
8. Multiple dental services are part of an appointment (1-to-many).

1) Book an appointment
2) Come to the clinic
3) the clinic charges the patient depending on the services she/he has received. And 5% value-added tax (VAT) is added to the final bill.

Design a UML class diagram representing the concepts and relationships in the scenario. Ensure using the different types of association and inheritance relationships where necessary. You may make assumptions about attributes (with

access specifications) and concepts not explicitly mentioned in the problem statement. A clear description of the relationships and assumptions must be included.