Assignment 2: Software Implementation - OO Project with GUI

1. **UML Class** Diagram and Description

```
┌─────────────────────────────────────┐
│           DentalCompany              │
├─────────────────────────────────────┤
│ -name: String                        │
│ -branches: List                      │
│                                      │
│                                      │
├─────────────────────────────────────┤
│ +setName(name:String)                │
│ +getName():String                    │
│                                      │
│ +addBranch(branches:List)            │
│ +getBranch():List                    │
│                                      │
│                                      │
└─────────────────────────────────────┘
```

```
┌─────────────────────────────────────┐
│            DentalBranch              │
├─────────────────────────────────────┤
│ -address: String                     │
│ -phoneNumber: String                 │
│ -manager: String                     │
│ -staff: List                         │
│ -Service: List                       │
│ -patient: List                       │
│ -appointment: List                   │
├─────────────────────────────────────┤
│ +setAddress(address:String)          │
│ +getAddress():String                 │
│                                      │
│ +setPhoneNumber(phoneNumber:String)  │
│ +getPhoneNumber():String             │
│                                      │
│ +setManager(manager:String)          │
│ +getManager():String                 │
│                                      │
│ +addStaff(staff: List)               │
│ +getStaff():List                     │
│                                      │
│ +addService(Service:List)            │
│ +getService():List                   │
│                                      │
│ +addPatient(patient:List)            │
│ +getPatient():List                   │
│                                      │
│ +addAppointment(appointment:List)    │
│ +getAppointment():List               │
└─────────────────────────────────────┘
```

Service

-name: String
-cost: Float

+setName(name:String)
+getName():String

+setCost(cost:Float)
+getCost():Float

Cleaning

-cleaningType: ENUM

+setCleaningType(cleaningType:ENUM)
+getCleaningType():ENUM

+__str__():String

Implants

-surgicalProcedureDetails: String

+setSurgicalProcedureDetails(surgicalProcedureDetails:String)
+getSurgicalProcedureDetails():String

+__str__():String

Crowns

-crownMaterial: String

+setCrownMaterial(crownMaterial:String)
+getCrownMaterial():String

+__str__():String

Fillings

-fillingSize: ENUM

+setFillingSize(fillingSize:ENUM)
+getFillingSize():ENUM

+__str__():String

Person

-name: String
-email: String
-phoneNumber: String

+setName(name:String)
+getName():String

+setEmail(email:String)
+getEmail():String

+setPhoneNumber(phoneNumber:String)
+getPhoneNumber():String

+__str__():String

Staff

-staffType: String
-salary: Float
-hireData: Data

+setStaffType(staffType:String)
+getStaffType():String

+setSalary(salary:Float)
+getSalary():Float

+setHireDate(hireData:Data)
+getHireDate():Data

+__str__():String

Managers

-department:String

+setDepartment(department:String)
+getDepartment():String

+__str__():String

Receptionists

-deskNumber: Int

+setDeskNumber(deskNumber:Int)
+getDeskNumber():Int

+__str__():String

Hygienists

-lisenceNumber: String

+setLisenceNumber(lisenceNumber:String)
+getLisenceNumber():String

+__str__():String

Dentists

-specialization: String

+setSpecialization(specialization: String)
+getSpecialization():String

+__str__():String

Patient

Patient
-healthStatus: ENUM -healthCardNumber: String -haveInsurance: Boolean
+setHealthStatus(healthStatus:ENUM) +getHealthStatus():ENUM +setHealthCardNumber(healthCardNumber:String) +getHealthCardNumber():String +setHaveInsurance(haveInsurance:Boolean) +getHaveInsurance():Boolean   +__str__():String

Appointment

Appointment
-patientName: String -dentistName: String -data: Date -time: Time -phoneNumber: String -services: String -status: ENUM
+setPatientName(patientName:String) +getPatientName():String +setDentistName(dentistName:String) +getDentistName():String +setDate(data:Date) +getDate():Date +setTime(time:Time) +getTime():Time +setPhoneNumber(phoneNumber:String) +getPhoneNumber():String +setServices(services:String) +getServices():String +setStatus(status:ENUM) +getStatus():ENUM

Bill

-patientName: String
-invoiceNumber: String
-data: Date
-time: Time
-services: String
-cost: Float
-tax: Float
-total: Float
-paymentMethod: ENUM

+setPatientName(patientName:String)
+getPatientName():String

+setInvoiceNumber(invoiceNumber:String)
+getInvoiceNumbere():String

+setDate(data:Date)
+getDate():Date

+setTime(time:Time)
+getTime():Time

+setServices(services:String)
+getServices():String

+setCost(cost:Float)
+getCost():Float

+setTax(tax:Float)
+getTax():Float

+setTotal(total:Float)
+getTotal():Float

+setPaymentMethod(paymentMethod:ENUM)
+getPaymentMethod():ENUM

Payment

-patientName: String
-services: String
-amount: Float
-data: Date
-time: Time
-method: ENUM
-status: Enum

+setPatientName(patientName:String)
+getPatientName():String

```
+setServices(services:String)
+getServices():String

+setAmount(total:Float)
+getAmountl():Float

+setDate(data:Date)
+getDate():Date

+setTime(time:Time)
+getTime():Time

+setStatus(status:ENUM)
+getStatus():ENUM
```

Relationships: