2/Use case diagram :

User

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v

Doctor -------+

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v v

Patient Treatment

Assumptions:

* User is an actor who performs all the use cases.

1. Scenarios for each use case:

* Add Doctor
  + User selects "Add Doctor" from the menu.
  + User enters doctor's name, date of birth, and specialty.
  + System validates the input and saves the new doctor's information.
* Add Patient
  + User selects "Add Patient" from the menu.
  + User enters patient's name, date of birth, and insurance company.
  + System validates the input and saves the new patient's information.
* Schedule Appointment
  + User selects "Schedule Appointment" from the menu.
  + User selects a doctor and a patient.
  + User enters appointment date and time.
  + System validates the input and schedules the appointment.
* Add Treatment
  + User selects "Add Treatment" from the menu.
  + User selects a doctor and a patient.
  + User enters treatment description, date, and cost.
  + System validates the input and saves the treatment information.
* View Patient's Treatments
  + User selects "View Patient's Treatments" from the menu.
  + User selects a patient.
  + System retrieves the patient's treatment history and displays it to the user.

1. Common attributes and behaviors for Doctor and Patient classes:

* Attributes:
  + name
  + date of birth
* Behaviors:
  + None

1. General class "Person" with common attributes:

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| Person |

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| - name: String |

| - dateOfBirth: Date |

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| + getName(): String |

| + setName(name: String): void |

| + getDateOfBirth(): Date |

| + setDateOfBirth(date: Date): void |

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1. Doctor class:

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| Doctor |

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| - specialty: String |

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| + getSpecialty(): String |

| + setSpecialty(specialty: String): void |

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1. Abstract class "MedicalPersonnel" and inherited classes "Doctor" and "Receptionist":

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| MedicalPersonnel |

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| - name: String |

| - dateOfBirth: Date |

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| + getName(): String |

| + setName(name: String): void |

| + getDateOfBirth(): Date |

| + setDateOfBirth(date: Date): void |

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+---------------------+

| Doctor |

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| - specialty: String |

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| + getSpecialty(): String |

| + setSpecialty(specialty: String): void |

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| Receptionist |

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| - employeeID: int |

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| + getEmployeeID(): int |

| + setEmployeeID(id: int): void |

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