- Classes

  o   Class: Amenities
  Description: Different types of Amenities accessible to the patients
  Superclass: Bill
  Attributes: Price, **AmenityID**
  Attribute Description: Price of Amenities**, Unique ID used to determine amenity chosen for bill.**

  o   ~~Class: Assistant Manager~~
  ~~Description: Manages the sanitation employees~~
  ~~Superclass: Management~~
  ~~Attributes: N/A~~
  ~~Attribute Description: N/A~~

  o   ~~Class: Assistant Manager~~
  ~~Description: Manages the maintenance employees~~
  ~~Superclass: Management~~
  ~~Attributes: N/A~~
  ~~Attribute Description: N/A~~

  o   Class: ATM
  Description: Money vending service for patients and employees
  Superclass: Amenities
  Attributes: N/A
  Attribute Description: N/A

  o   Class: Cafeteria
  Description: Place for employees and patients to buy food
  Superclass: Amenities
  Attributes: N/A
  Attribute Description: N/A

  o   Class: CAT Scan
  Description: A type of scanning that allows to see inside the body. More detailed than x-rays.
  Superclass: Medical Imaging
  Attributes: N/A
  Attribute Description: N/A

  o   Class: Clerks
  Description: Responsible for assigning rooms to patients
  Superclass: Employees
  Attributes: N/A
  Attribute Description: N/A

- o Class: Doctors

Description: Responsible for treating patients
Superclass: Employees
Attributes: N/A
Attribute Description: N/A

- ~~o Class: Head Manager~~
~~Description: Manages the assistant managers~~
~~Superclass: Management~~
~~Attributes: N/A~~
~~Attribute Description: N/A~~

- ~~o Class: Instrument Cleaners~~
~~Description: Make sure medical equipment is cleaned and sanitized~~
~~Superclass: Sanitation~~
~~Attributes: N/A~~
~~Attribute Description: N/A~~

- ~~o Class: IT Technician~~
~~Description: Maintains the technical framework of the hospital~~
~~Superclass: Maintenance~~
~~Attributes: N/A~~
~~Attribute Description: N/A~~

- o Class: Maintenance

Description: Make sure medical equipment is maintained
Superclass: Employees
Attributes: N/A
Foreign Keys: ManagementID_FK
Attribute Description: N/A

- o Class: Management

Description: Manage other employees
Superclass: Employees
Attributes: N/A
Attribute Description: N/A

- o Class: Materials

Description: List of all materials that is used to treat the patients.
Attributes: N/A
Attribute Description: N/A

o   Class: Medical Imaging
Description: Technique and process of creating visual representation of the interior body
Superclass: Treatments
Attributes: **MedicalID int(10), X-Ray_Flag integer, MRI_Flag integer, Cat_Flag integer, Ultra_Flag integer**
Attribute Description: **MedicalD used to determine which medical imaging was used for bill, Flags are used for determining if imaging type is being used for Bill.**

~~o   Class: Medical Instrument Technician~~
~~Description: Maintains the condition of medical instruments~~
~~Superclass: Maintenance~~
~~Attributes: N/A~~
~~Attribute Description: N/A~~

o   Class: Medicine
Description: List of all medicine that is given to the patients.
Superclass: Treatments
Attributes: N/A
Attribute Description: N/A

o   Class: MRI Scan
Description: Used to diagnose patient using imaging technologies
Superclass: Medical Imaging
Attributes: N/A
Attribute Description: N/A

o   Class: Nurses
Description: Record the height and weight of the patients
Superclass: Employees
Attributes: N/A
Attribute Description: N/A

o   Class: PT
Description: Physical Therapy given to the patients.
Superclass: Treatments
Attributes: N/A
Attribute Description: N/A

o   Class: Sanitation
Description: Cleaning and sanitizing hospital environments
Superclass: Employees
Attributes: N/A
Foreign Keys: MangementID_FK
Attribute Description: N/A

- o Class: Surgery

Description: Surgery conducted on patients
Superclass: Treatments
Attributes: N/A
Attribute Description: N/A

- o Class: Treatments

Description: Different types of treatments used to bill patient
Superclass: Bill
Attributes: **TreatmentID int(10), Medical_Imaging_ID int(10), Medical_Imaging_Flag integer, Surgery_Flag integer, Materials_Flag integer, PT_Flag integer**
Attribute Description: **TreatmentID used to determine which treatment to be used for bill. Medical_Imaging_ID used to determine which imaging services were used for the bill. Flags used to determine specific treatment type.**

- o Class: Uber

Description: Drop-off service for patients
Superclass: Amenities
Attributes: N/A
Attribute Description: N/A

- o Class: UltraSound

Description: Used to diagnose patient using imaging technologies
Superclass: Medical Imaging
Attributes: N/A
Attribute Description: N/A

- o Class: Vending Machines

Description: Dispenses food for patients and employees
Superclass: Amenities
Attributes: N/A
Attribute Description: N/A

- o Class: Wi-Fi

Description: Internet service for patients and employees
Superclass: Amenities
Attributes: N/A
Attribute Description: N/A

- o Class: X-Rays

Description: Used to diagnose patient using imaging technologies
Superclass: Medical Imaging
Attributes: N/A
Attribute Description: N/A

- Entities

  - Entity: Bill

  Description: A monetary charge assigned to a patient by the hospital

  Primary Key: N/A

  Foreign Key: SSN_FK

  Attributes: ~~Treatment ID,~~ **Treatement_ID** int (10), ~~Amenity ID~~ **Amentiy_ID** int (10), ~~Nights Stayed~~ **Nights_Stayed** int (100), ~~Treatments Flag~~ **Treatments_Flag** integer, ~~Amenities Flag~~ **Amenities_Flag integer**, ~~Nights Stayed~~ **Nights_Stayed_Flag** integer.

  Attribute Description: ~~Treatment ID~~ **Treatement_ID** used for determining treatments used for bill. ~~Amenity ID~~, **Amentiy_ID** used for determining amenity used for bill. ~~Nights Stayed,~~ **Nights_Stayed** used for determining nights stayed for bill. Flags used for determining if treatments, amenities, or nights stayed were used for bill.

  - Entity: Employees

  Description: A human who is employed by the hospital

  Primary Key: Employee ID

  Attributes: Name, Varchar, Sex, Varchar, Age, Integer, Salary, Integer, ~~Employee ID~~, **Employee_ID**, Integer, ~~Date of Hire~~ **Date_of_Hire**, Varchar, ~~Check In Time~~ **Check_In_Time**, Float, ~~Check Out Time~~ **Check_Out_Time**, Float.

  Attribute Description: Name is the name of the independent employee. Sex is the sex of the employee, coded M=male, F=female. Age is the age of the employee as an integer. Salary is the salary of the employee, as an integer. ~~Employee ID~~ **Employee_ID** is a unique integer assigned to the employee at hire time. ~~Date of hire~~ **Date_of_Hire** is a varchar, encoded as MM/DD/YYYY. ~~Check in time~~ **Check_In_Time** is a floating point number representing when the employee clocked in for the day. ~~Check out time~~ **Check_Out_Time i**s a floating point number representing when the employee clocked out for the day.

  - Entity: Patients

  Description: A human who is under the care of the hospital

  Primary Key: SSN

  Foreign Keys: DoctorID_FK, Room#_FK

  Attributes: SSN, Integer, Diagnosis, Varchar, ~~CheckIn Date~~ **CheckIn_Date**, Varchar, ~~CheckOut Date~~ **CheckOut_Date**, Varchar, Name, Varchar, ~~Credit Card~~ **Credit_Card**, Integer, ~~Room Number~~ **Room_Numbe**r, Integer, Sex, Varchar, Age, Integer, Height, Float, Weight, Float, DOB, Varchar, ~~Phone Number~~ **Phone_Number**, Integer, Address, Varchar.

  Attribute Description: SSN is the social security number of the patient, and is the unique identifier for the patient. Diagnosis is the diagnosis given to the patient by the doctor, expressed as a varchar. ~~CheckIn Date~~ **CheckIn_Date** is the date the patient checked in, coded as MM/DD/YYYY. ~~CheckOut Date~~ **CheckOut_Date** is

the date the patient checked out, coded as MM/DD/YYYY. Name is the name of the patient. ~~Credit card~~ **Credit_Card** is the patient's credit card number as an integer. ~~Room number~~ **Room_Number** is the number of the room the patient is staying in, as an integer. Sex is the sex of the patient, coded as M=male and F=female. Age is the age of the patient, expressed as an integer. Height is the height of the patient as a floating point number. Weight is the weight of the patient as a floating point number. DOB is the date of birth of the patient, coded as MM/DD/YYYY. ~~Phone number~~ **Phone_Number** is the integer phone number of the patient. Address is the address of the patient as a varchar.

- o Entity: Rooms

Description: Represents a room within the hospital
Primary Key: Room#
Foreign Key: MaintenenceID_FK, SanitationID_FK
Attributes: Room #, Integer
Attribute Description: Room # is an integer representing the room number in the hospital.

- ● Relationships

  - o Relationship: Assign

Entities: Clerks and Rooms
Cardinality: 1:1
Foreign Key: ClerkID_FK, Room#_FK
Description: A relationship between the clerks and rooms

  - o Relationship: Assigned

Entities: Doctors and Patients
Cardinality: 1:15
Description: A relationship between the doctors and patients

  - o Relationship: Assigned to

Entities: Rooms and Patients
Cardinality: 1:1
Foreign Key: Room#_FK, SSN_FK
Description: A relationship between the rooms and patients

  - o Relationship: Take Measurements

Entities: Nurses and Patients
Cardinality: 1:1
Foreign Keys: NurseID_FK, SSN_FK
Description: A relationship between the nurses and patients

  - o Relationship: Gets

Entities: Patients and Bill

Cardinality: 1:1
Description: A relationship between the Patients and their Bill