

HEALTH INSURANCE DATABASE SYSTEM

Milestone #2

Group 23

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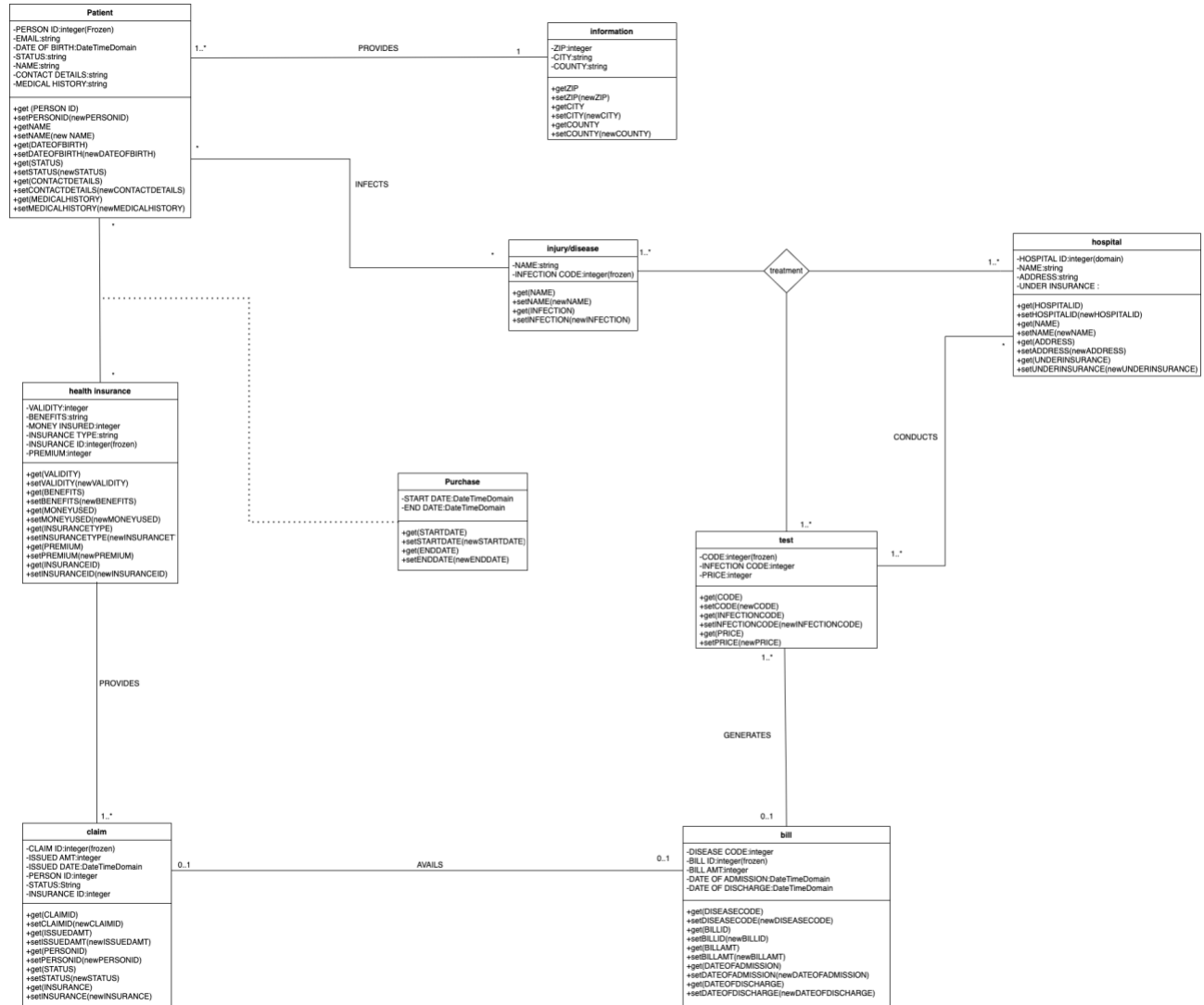
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Submission Date: 11/04/2022

UML Diagram:



Relational Mapping :

Primary key (underlined), foreign key (in italics)

- Patient(PersonID, *info_id*, medicalhistory, email, dateofbirth, status, Name, contactdetails)
 - Info_id
Here, Info_id is the foreign key which refers to Information and it is NULL NOT ALLOWED
- Purchases(*PersonID*, *InsuranceID*, startdate, enddate)
 - PersonID, InsuranceID
Here they are the foreign keys that refer to Patient and Health insurance respectively and it is NULL NOT ALLOWED
- Infected(*PersonID*, *Infectioncode*)
 - personID, Infectioncode
Here these are the foreign keys that refer to Patient and injury respectively and it is NULL NOT ALLOWED
- Information (zip, city, county)
- Health insurance (insuranceID, insurancetype, moneyinsured, benefits, validity, premium)
- Provides(*insuranceid*, *claimid*)
 - insuranceid, claimid
Here these are the foreign keys that refer to Health insurance and claim respectively and it is NULL NOT ALLOWED
- Claim(claimID, *billid* , issuedamt, issueddate, status, *personID*, *InsuranceID*)
 - personID, InsuranceID
Here they are the foreign keys that refer to Patient and Health insurance respectively and it is NULL NOT ALLOWED
- billid
this is the foreign key that refers to BILL and is NULL ALLOWED
- Bill(billid , dateofdischarge, dateofadmission, billamt, *injurycode*)

- injurycode
Here it is the foreign key referring to injury and it is NULL NOT ALLOWED
- Injury(infectioncode, name)
- Treats(*infectioncode*, *hospitalid*)
 - infectioncode, hospitalid
Here it is the foreign key that refers to injury and hospital and it is NULL NOT ALLOWED
- Hospital(hospitalid, hname, haddress, isunderinsurance)
- Conducts(*hospitalid*, *testcode*)
 - hospitalid, testcode
Here it is the foreign key that refers to Hospital and Test and it is NULL NOT ALLOWED
- Test(code, *billid*, price)
- Billid
Here it is the foreign key that refers to bill and it is NULL NOT ALLOWED
- Treatment(*infectioncode*, *hospitalid*, *code*)
 - hospitalid, testcode, code
Here it is a foreign key that refers to hospital, test and injury and it is NULL NOT ALLOWED.

Normalization :

- Patient(PersonID, *info_id*, medicalhistory, email, dateofbirth, status, Name, contactdetails)
 - Already in 1NF and 2NF
 - 3NF and BCNF:
Patient(Name,contactdetails)
P_info(PersonID, *info_id*,medicalhistory,email,dateofbirth,status,Name)
- Purchases(*PersonID*, *InsuranceID*, startdate,enddate)
 - ALREADY IN 1NF and 2NF
 - 3NF and BCNF:
Purchases(*PersonID*, startdate, enddate)
R(*PersonID*, *InsuranceID*)
- Infected(*PersonID*,Infectioncode)
 - Already normalized
- Information (zip, city, county)
 - Already normalized
- Health insurance (insuranceID, insurancetype,moneyinsured,benefits,validity,premium)
 - Already in 1NF and 2NF
 - 3NF and BCNF:
Healthinsurance (insurancetype,benefits,premium,moneyinsured,validity)
Type (insuranceID,insurancetype)
- Provides(*insuranceid*, *claimid*)
 - Already normalized
- Claim(claimID, *billid* , issuedamt, issueddate, status, *personID*, *InsuranceID*)
 - Satisfies 1NF and 2NF
 - 3NF and BCNF:
Insure(InsuranceID,claimID)
Claim_details(claimID,status,billid)
Bill_details(billid,issueddate,issuedamt)
Person(*personID*,*InsuranceID*)
- Bill(billid , dateofdischarge, dateofadmission, billamt, *injurycode*)
 - ALREADY in 1NF, 2NF, 3NF, BCNF

- Injury(infectioncode, name)
 - ALREADY in 1NF, 2NF, 3NF, BCNF
- Treats(*infectioncode*, *hospitalid*)
 - ALREADY in 1NF, 2NF, 3NF, BCNF
- Hospital(hospitalid, hname, haddress, isunderinsurance)
 - ALREADY in 1NF, 2NF, 3NF, BCNF
- Conducts(*hospitalid*, *testcode*)
 - ALREADY in 1NF, 2NF, 3NF, BCNF
- Test(code, *billid*, price)
 - ALREADY in 1NF, 2NF, 3NF, BCNF
- Treatment(*infectioncode*, *hospitalid*, *code*)
 - ALREADY in 1NF, 2NF, 3NF, BCNF