**Healthcare Insurance**

**Problem Statement:**

**Insta-Health,** a healthcare organization, has a new project that will use Blockchain to improve and automate its health insurance process.

You must develop a business network through which patients can opt for health insurance from **Insta- Health.** Proceed with the following design process:

**Steps to Perform:**

Step 1: Design and implement the model file and replace the first line with the code below:

namespace.org.syngxchain

Step 2: Create the following assets:

1. Create a Receipt asset using the following code:

asset Receipt identified by contractId {

o   String contractId

àPatient patient

àPhysician physician

àAppointment appointment

àPreDoctorCheckup PatientCheckupList

o   String prescriptionDate

o   Double tablets

o   Double dosage

o   ProductType type

o   String notes

o   Double consultingCharges

}

2. Create an Appointment asset using the following code:

asset Appointment identified by appointmentID {

o   String appointmentID

o   String RequestedTime

o   String notes

o   appointmentWithInsurance InsuranceFlag

àInsuranceledger InsuranceId optional

àPatient patient

àPhysician confirmedBy optional

o   AppointmentStatus status

o   DiseaseClassification disease Type

}

enum appointmentWithInsurance{

o   Yes

o   No

        }

3. Create a PreDoctorCheckUp asset using the following code:

asset PreDoctorCheckup identified by chekupID{

o   String checkupID

àAppointment appointment

o   Double BodyTemperature

o   String BloodPressure

o   String Pulse

o   Double Height

o   Double Weight

o   String Notes

}

4. Create a ReceiptBill asset using the following code:

asset ReceiptBill identified by ReceiptBillId{

o   String ReceiptBillId

àPatient payer

àReceipt receipt

àPhysician receiver

o   ReceiptBillStatus status

}

5. Create an Order asset using the following code:

asset Order Identifed by orderID{

o   String orderID

o   String unitCount

o   OrderStatus status

o   Double price optional

àPatient creator

àReceipt receipt

àVendor Supplier

}

enum ReceiptBillStatus{

o   Pending

o   Paid

}

enum DiseaseClassification {

o   Eye

o   General

o   Gyno

o   Teeth

o   Skin

o   Digestive

}

    enum AppointmentStatus {

o   Pending

o   Confirmed

}

enum ProductType {

o   IBOPROUFEN

o   ASPIRIN

o   XANAX

o   VIAGRA

}

enum OrderStatus{

o   Placed

o   In\_Tranit

o   Delivered

}

                     concept Address {

o   String City

o   String country

o   String street

o   String zip

                                }

                    enum Gender {

o   Male

o   Female

o   Others

                                }

Step 3: Create the following participants:

1. Create the Patientidentified participant using the following code:

participant Patientidentified by PMI {

o   String PMI

o   String First Name

o   String LastName

o   String email

o   String phone

o   String gender

o   Integer Age

o   Double accountBalance

o   Address address

o   Double DueBalance optional

}

2. Create the Nurse participant using the following code:

participant Nurse identified by NSI {

o   String NSI

o   String First Name

o   String Last Name

o   String email

o   String phone

o   Gender gender

o   Integer Age

o   Address address

o   String HighestDegree

}

3. Create the Clerk participant using the following code:

participant Clerk identified by CSI {

o   String CSI

o   String First Name

o   String Last Name

o   String email

o   String phone

o   Gender gender

o   Integer Age

o   Address address

o   String HighestDeegre

}

4. Create the Physician participant using the following code:

participant Physician identified by NPI {

o   String NPI

o   String License Np

o   String Highest Degree

o   DiseaseClassification Specialization

o   String FirstName

o   String LastName

o   String email

o   String phone

o   Gender gender

o   Integer Age

o   Double accountBalance

o   Address address

}

5. Create the Vendor participant using the following code:

participant Vendor identified by vendorId{

o   String vendorId

o   String companyName

o   String regdno

o   String email

o   String phone

o   Double accountBalance

o   Integer rating

o   Address address

}

Step 4: Write the following codes for the transactions:

1. Write the requestInsurance transaction using the following code:

transaction requestInsurance{

àHealthInsuranceCompany Owner

àPatient subscriber

o   Subsplan subscriptionPlan

}

2. Write the PayConsultation transaction using the following code:

transaction PayConsultationBillFHI{

àInsuranceBilltoDoct bill

àHealthInsuranceCompany payer

}

3. Write the approveInsurance transaction using the following code:

transaction approveInsurance{

àHealthInsuranceCompany owner

àInsuranceledger insuranceDetails

}