

Assumptions:

1. About Parent - Couple
 - a. A parent cannot be signed up as both mother and second parent as one couple.
 - b. The parent will receive a single unique id.
 - c. The address of the parent who signed up as a mother is the home address.
 - d. The mother's blood type will be recorded during the pregnancy.
2. About Couple
 - a. Assume that it is possible for an information session that no one attends.
 - b. It is also possible for a coupleInSystem which do not attend any infosession.
 - c. Only the couple who express interest in the program will be selected.
 - d. The backup midwife will be assigned after the couple is pregnant (become a pregnancy couple).
3. About MedicalTest and Lab technician
 - a. Both Midwife and Lab technician is able to update the medical test result.
 - b. Each MedicalTest corresponds to one result(as a string).
 - c. Any medical test should be prescribed during an appointment.
 - d. The ultrasound test will be prescribed during the first appointment (initial appointment)
 - e. Information about the babies can be determined by the medical tests through the appointments.
4. About infosession:
 - a. Infosession will still be held when no couple is attending.
 - b. The couple will only attend the infosessions which they have registered.

Restrictions:

1. When signing up as a couple in the system, the second parent can have a NULL value for some attribute(only name, date of birth, phone number and current profession are mandatory).
2. Any selected couple attended the info session at least one time.
3. From assumption 2b, any couple that never attends the information session will not be selected as SelectedCouple.
4. A backup midwife will be assigned before the mother gives birth.
5. The clinic will not be able to be the place to give birth. And there are two types of place that the parent can choose to give birth: the birthing center or their home.
6. The information about the estimation due date will be updated after the first appointment.
7. The mother's blood type will be recorded before due date.

Entities:

1. Parent (parentID, name, email, address, dateOfBirth, phoneNumber, QCHealthID, bloodType, currProfession, lastMenstrualPeriod, expectedBirthTime)
2. CoupleInSystem (coupleID)
 - a. SelectedCouple(coupleID)
 - i. PregnancyCouple(coupleID, #ofPregnancy, #ofFetus, estDueDate, estUltrasoundDueDate, ActualDueDate, placeGiveBirth)
 1. Fetus (babyID, coupleID, sex, name, bloodType, birthDateAndTime) (weak)
3. Midwife (practitionerID, name, email, phoneNumber)
4. Institution (email, name, website, phoneNumber)
 - a. CommunityClinic(email)
 - b. BirthingCenter(email)
5. InformationSession (infoSessionID, language, dateAndTime)
6. Appointment (AppointmentID, DateAndTime)
 - a. Note (AppointmentID, timestamps, content) (weak)
7. MedicalTest (TestID, testType, testName, operator, prescribedDate, sampleDate, lanDate, Result)
8. LabTechnician (technicianID, name, phoneNumber)

Relational Translation:

1. SignupAsMother (coupleID,parentID)
 - coupleID foreign key ref CoupleInSystem
 - parentID foreign key ref Parent
2. SignupAsSecondParent (coupleID,parentID)
 - coupleID foreign key ref CoupleInSystem
 - parentID foreign key ref Parent
3. Institution (email, name, website, phoneNumber)
 - a. CommunityClinic(email)
 - email foreign key ref Institution
 - b. BirthingCenter(email)
 - email foreign key ref Institution
4. WorkFor (practitionerID, email)
 - practitionerID foreign key ref Midwife
 - email foreign key ref Institution
 - The system needs to make sure that every midwife is work for one institution.
5. CoupleInSystem (coupleID) (object oriented approach)
 - a. SelectedCouple (coupleID)
 - coupleID foreign key ref CoupleInSystem
 - i. PregnancyCouple (coupleID, #ofPregnancy, #ofFetus, estDueDate, estUltrasoundDueDate, ActualDueDate, placeGiveBirth)

- coupleID foreign key ref CoupleInSystem
- 6. PregnancyCouple(coupleID, ..., placeGiveBirth)
 - Fetus (coupleID, BabyID, sex, name, bloodType, BirthDateandTime)
 - coupleID foreign key ref PregnancyCouple
- 7. Registration (infoSessionID, coupleID, attendance)
 - infoSessionID foreign key ref InformationSession
 - coupleID foreign key ref CoupleInSystem
- 8. Host (infoSessionID, practitionerID)
 - infoSessionID foreign key ref InformationSession
 - practitionerID foreign key ref Midwife
- 9. AssignPrimary (coupleID, practitionerID)
 - coupleID foreign key ref SelectedCouple
 - practitionerID foreign key ref Midwife
 - The system needs to make sure that every selected couple is assigned with a midwife.
- 10. AssignBackup (coupleID, practitionerID)
 - coupleID foreign key ref PregnancyCouple
 - practitionerID foreign key ref Midwife
 - Since the backup midwife is assigned during the pregnancy process, it is possible that a pregnant couple does not have a backup midwife, but a backup midwife will be assigned before the couple gives birth.
- 11. SetupAppointment (AppointmentID, coupleID, practitionerID)
 - AppointmentID foreign key ref Appointment
 - coupleID foreign key ref CoupleInSystem
 - practitionerID foreign key ref Midwife
- 12. Appointment (AppointmentID, DateAndTime)
 - Note (AppointmentID, timestamp, content)
 - AppointmentID foreign key ref Appointment
- 13. Prescription (AppointmentID, TestID)
 - AppointmentID foreign key ref Appointment
 - TestID foreign key ref MedicalTest
- 14. ConductBy (testID, technicianID)
 - testID foreign key ref MedicalTest
 - technicianID foreign key ref LabTechnician