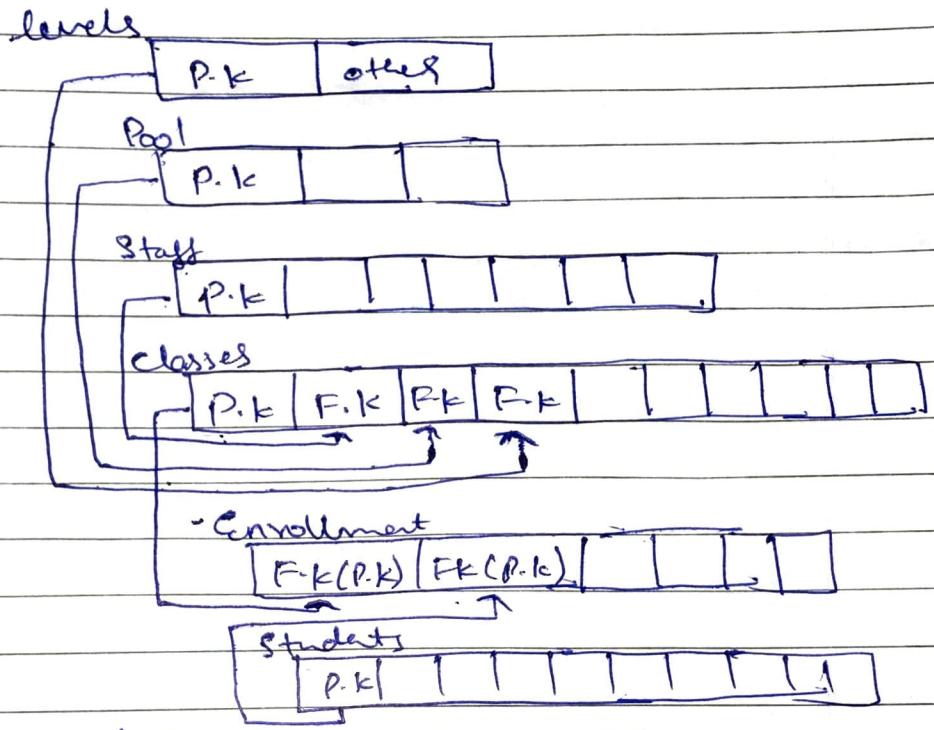
20bcs049 DBMS Feb 4th
G. Deepak Sujay Class Hackathon page:1

(1) Schema



Note: Conceptual Data model is added in as picture.
↳ in page (3)

(2) Cardinality → No. of Relationships = 5
Degree of All relation ships = one to many.
Although.
Strong one to many:
- classes ++ ⊱ Enrollment
- Students ++ ⊱ Enrollment

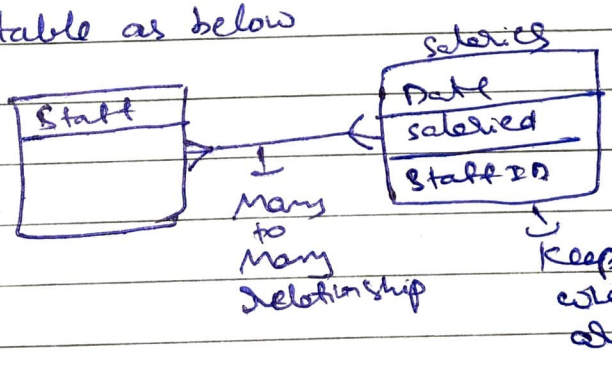
Weak one to many:
- levels ++ - - - ⊱ classes
- Pool -++ - - 0 ⊱ classes
- Staff -+0 - - 0 ⊱ classes

(3) Physical Data Model (ERD) screenshot is added in subsequent pages. in page (4)

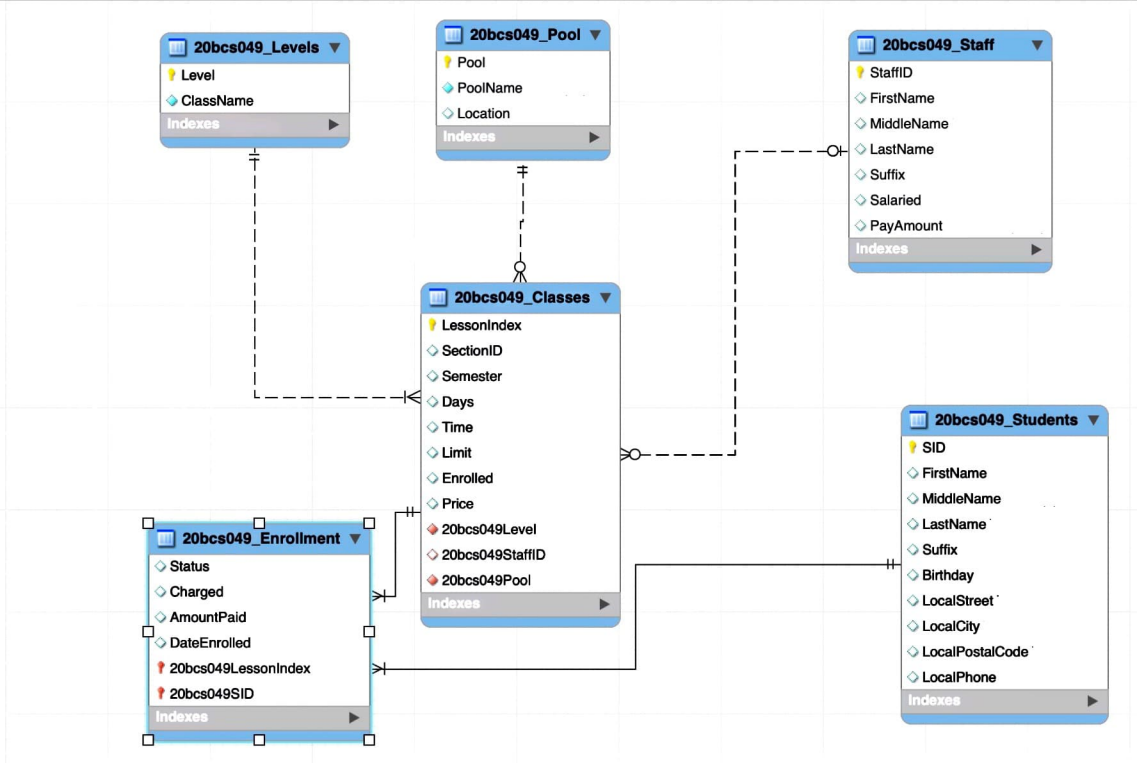
Teacher's Signature

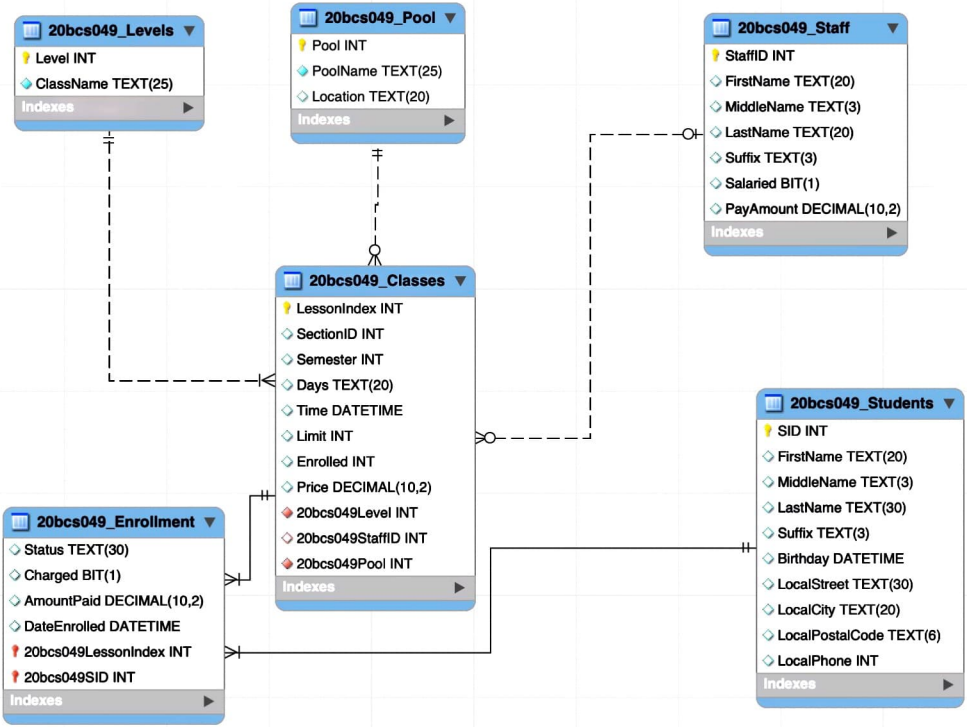
(4) In all the 5 tables that present "Enrollment" table is the only weak entity as it's primely keys is a combination of two weak entity. Though it is possible to just add some other physical key i.e some id, but I think it is best to leave it as it is because, if we should be having unique combo of class, student.

(5) In our physical data model fortunately there are no data redundancies.
Although Classname attribut can be removed from levels table and can be added in Class table ~~also~~ along with that as teachers have salaried attribut, we can seperate it into new table as below



↳ This is not data redundancy just a improvement


20bcs049_Levels
Level
ClassName
Indexes
20bcs049_Pool
Pool
PoolName
Location
Indexes
20bcs049_Staff
StaffID
FirstName
MiddleName
LastName
Suffix
Salaried
PayAmount
Indexes
20bcs049_Classes
LessonIndex
SectionID
Semester
Days
Time
Limit
Enrolled
Price
20bcs049Level
20bcs049StaffID
20bcs049Pool
Indexes
20bcs049_Students
SID
FirstName
MiddleName
LastName
Suffix
Birthday
LocalStreet
LocalCity
LocalPostalCode
LocalPhone
Indexes
20bcs049_Enrollment
Status
Charged
AmountPaid
DateEnrolled
20bcs049LessonIndex
20bcs049SID
Indexes


20bcs049_Levels
Level INT
ClassName TEXT(25)
Indexes
20bcs049_Pool
Pool INT
PoolName TEXT(25)
Location TEXT(20)
Indexes
20bcs049_Staff
StaffID INT
FirstName TEXT(20)
MiddleName TEXT(3)
LastName TEXT(20)
Suffix TEXT(3)
Salaried BIT(1)
PayAmount DECIMAL(10,2)
Indexes
20bcs049_Classes
LessonIndex INT
SectionID INT
Semester INT
Days TEXT(20)
Time DATETIME
Limit INT
Enrolled INT
Price DECIMAL(10,2)
20bcs049Level INT
20bcs049StaffID INT
20bcs049Pool INT
Indexes
20bcs049_Students
SID INT
FirstName TEXT(20)
MiddleName TEXT(3)
LastName TEXT(30)
Suffix TEXT(3)
Birthday DATETIME
LocalStreet TEXT(30)
LocalCity TEXT(20)
LocalPostalCode TEXT(6)
LocalPhone INT
Indexes
20bcs049_Enrollment
Status TEXT(30)
Charged BIT(1)
AmountPaid DECIMAL(10,2)
DateEnrolled DATETIME
20bcs049LessonIndex INT
20bcs049SID INT
Indexes