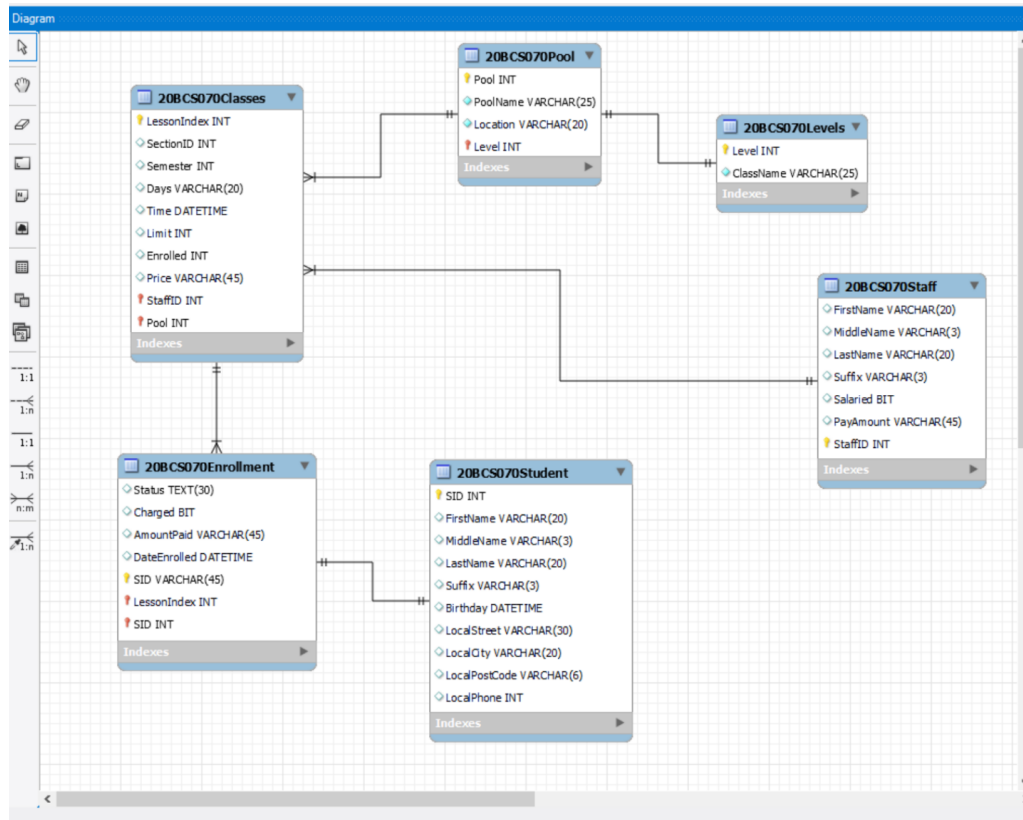


## CS310 DBMS Class Hackathon

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20bcs070

1.



### Description:

- Each class can have multiple enrollment.
- A pool can be used to conduct many classes but it is mandatory for a class to be conducted inside pool.
- One student must have only one enrollment.
- Each level must have one class.
- Multiple classes can have the same pool.
- Each staff member can handle multiple classes.

## 2. Degree & Cardinality

Degree(20bcs070Levels)=2

Degree(20bcs070Pools)=3

Degree(20bcs070Staff )=7

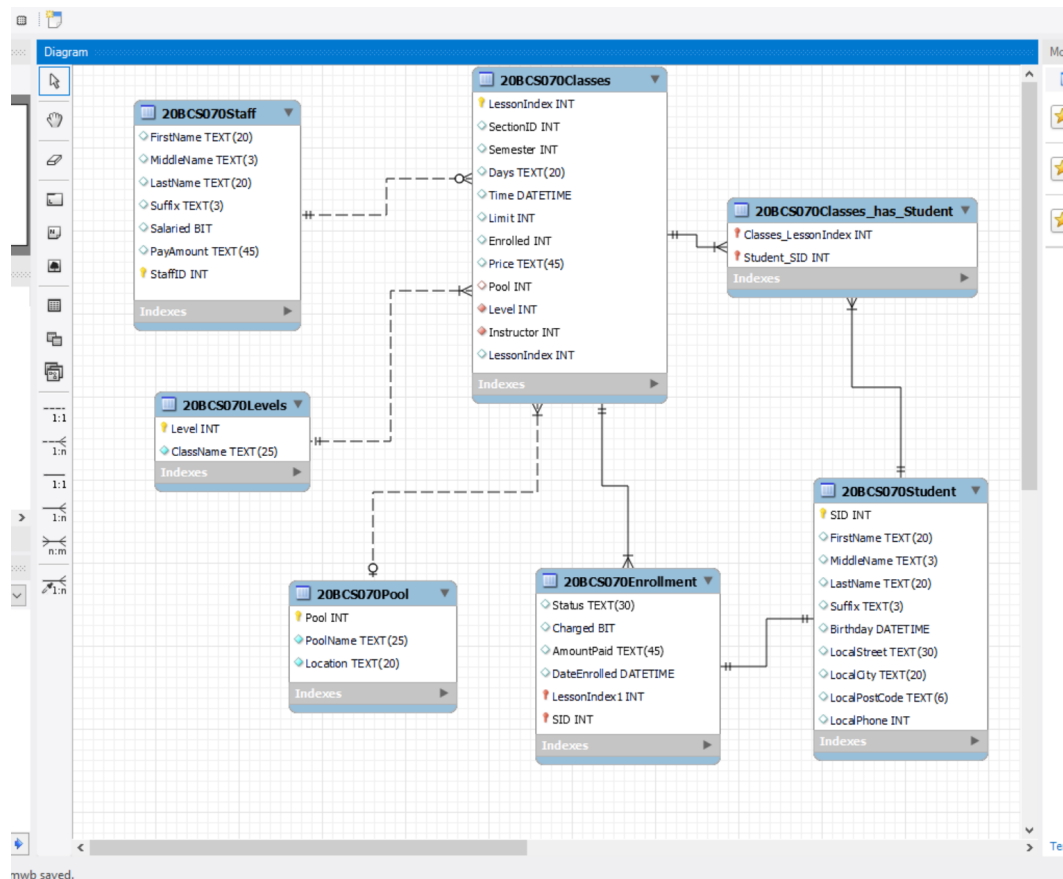
Degree(20bcs070Enrollment)=6

Degree( 20bcs070Classes)=11

Degree( 20bcs070Students)=10

20bcs070levels	<b>[one to one]</b>	20bcs070classes
20bcs070pools	<b>[one to many]</b>	20bcs070classes
20bcs070staff	<b>[one to many]</b>	20bcs070classes
20bcs070enrollment	<b>[many to one]</b>	20bcs070classes
20bcs070enrollment	<b>[one to one]</b>	20bcs070students

3.



## Descriptions :

- A pool may or may not ever have a class..
- The class must have a valid pool.
- The levels table must always be associated with at least one class.
- The staff table may not ever have taught a class.
- The class must have students enrolled in it
- The class may not have an instructor assigned.
- The class must have always been associated with an existing level.
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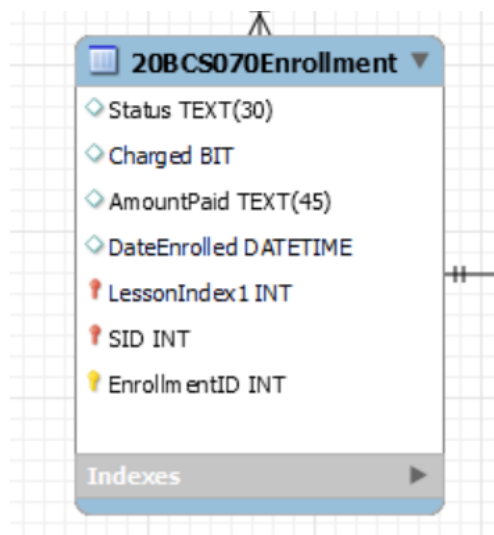
- One instructor can take many classes but it is mandatory that each class have an instructor while the participation of staff is optional. it is not necessary that an instructor has a class assigned to him/her.

#### 4. Identifying Weak entity:

A weak entity is an entity that can't be fully identified by its own attributes.

So here, “**20bcs070Enrollment**” is a weak entity. As it cannot exist without a Class & Students entity.

It can be converted to a strong entity by adding a primary key. There should be a primary key with the name “**EnrollmentID**”.



#### 5. Data Redundancy

Data redundancy occurs when the same piece of data is stored in two or more separate places and is a common occurrence in many businesses.

There is no data redundancy occurring in this model.

All the tables have the necessary and relevant information stored in them, and where there is a need, foreign keys are made use to reference data in other relations.

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