

Nimish Mangee (20bc5094)

1. Schema Diagram

20bc5094Level

<u>Level</u>	<u>ClassName</u>
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20bc5094Pool

<u>Pool</u>	<u>PoolName</u>	<u>Location</u>
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20bc5094 Staff

<u>First Name</u>	<u>Middle Initial</u>	<u>Last Name</u>	<u>Suffix</u>	<u>Salaried</u>	<u>Pay Amend</u>	<u>Staff ID</u>
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20bc5094 Classes

<u>Lesson Index</u>	<u>Level</u>	<u>Section ID</u>	<u>Semester</u>	<u>Days</u>	<u>Time</u>	<u>Pool</u>	<u>Instructor limit</u>	<u>Smaller</u>	<u>Price</u>
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20bc5094 Enrollment

<u>Lesson Index</u>	<u>SID</u>	<u>Status</u>	<u>Charged</u>	<u>Amount Paid</u>	<u>Date Enrolled</u>
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20bc5094 Students

<u>SID</u>	<u>First Name</u>	<u>Middle Initial</u>	<u>Last Name</u>	<u>Suffix</u>	<u>Birthday</u>	<u>Local Street</u>	<u>Local City</u>	<u>Local State/Prov</u>	<u>Local Phone</u>
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Nimish Mangal (20bc5094)

at this level

1. In ~~this~~ conceptual schema, we define entities, attributes and relationships

- How different entities are linked with each other in one to many relationships.
 - Programmers work at this level and do implementation & define constraints (primary key, foreign key, unique key etc)
2. Binary relationship is the degree of all the relationships in conceptual data model.

Cardinality of the conceptual data model in swimming pool database is many to one & one to many (or N:M)

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physical model (ERD)

3. In this conceptual schema we define entities, attributes and relationships between the entities as per the instructions given.
- a) Pool is linked in a one to many relationship with entity classes. There is no compulsory relationship participation of pool
 - b) Levels are in one to many relationship
 - c) Students have compulsory participation and one to many relationship with Enrollment
 - d) Classes have one to many relationship with enrollments, hence condition is satisfied
 - e) Classes have many to one relationship with pool, also every class must have one pool.
 - f) One instructor is assigned to many classes but all classes mayn't have instructor, shown by optional participation of classes.

Nirush Mangee (20BCS094)

4. Enrollment is weak entity

To make it strong entity we take the foreign keys
with descrip lesson Index & SID ^{two} 1, and
make both as primary key, so the enrollments'
entity behave as strong entity.

5. There is no data redundancy as per by
my observation in my physical data model
(ERD)

It is already optimised already has a good design