TERMWORK - 2

PROBLEM STATEMENT

- Design an ER-Model for an educational institute which is required to record the students attendance and IA performance in all the subjects and inform the same to their parents. The institute will have many department, each with its own faculty and Head of the department. The subjects the students study can be either elective or core. A faculty has to take atleast one subject and atmost 2 subjects and the subjects are not shared. The students take 3 tests and the average is computed by taking average of best two of the three scores. The model be designed to record only the CIE marks and not SEE marks.
- After the ER-Model, map it to relational schema by indentifying Primary and Foreign keys. Normalize

List the entities

- Find out the entities

List the entities

1. Faculty
2. Subject
3. IATest
4. Department
5. Student
6. Attendance
7. Parent

List the entities

1. Faculty
2. Subject
3. IATest
4. Department
5. Student
6. Attendance
7. Parent – since this entity depends on student, it's a weak entity

List the Attributes

1. Faculty (fid, fname, lname, dob, gender, addr, city, sal, designation)
2. Subject (subcode, subname, type, credit)
3. IATest (test_no, date)
4. Department (dno, dname, loc, deptbudget)
5. Student (usn, fname, lname, sem, add, city, cell)
6. Attendance (classNo, date, time)
7. Parent (pname, cell_no, addr)

List the Attributes & key attributes

1. Faculty (fid, fname, lname, dob, gender, addr, city, sal, designation)
2. Subject (subcode, subname, type, credit)
3. IATest (test_no, date)
4. Department (dno, dname, loc, deptbudget)
5. Student (usn, fname, lname, sem, add, city, cell)
6. Attendance (classNo, date, time)
7. Parent (**pname**, cell_no, addr)

Relationship

Faculty works for department

Faculty heads department

Faculty takes subject

Students belongs to department

Parent of student

Subject has students

Subject has attendance

Student has attendance

Subject score_of IaTest

Relationship & Cardinality

Faculty works for department (N : 1)

Faculty heads department (1 : 1)

Faculty takes subject (1 : N / M : N / 1:2)

Students belongs to department (N : 1)

Parent of student (1 : 1)

Subject has students (M : N)

Subject has attendance (M : N)

Student has attendance (M : N)

Subject score_of IaTest (1 : 1)

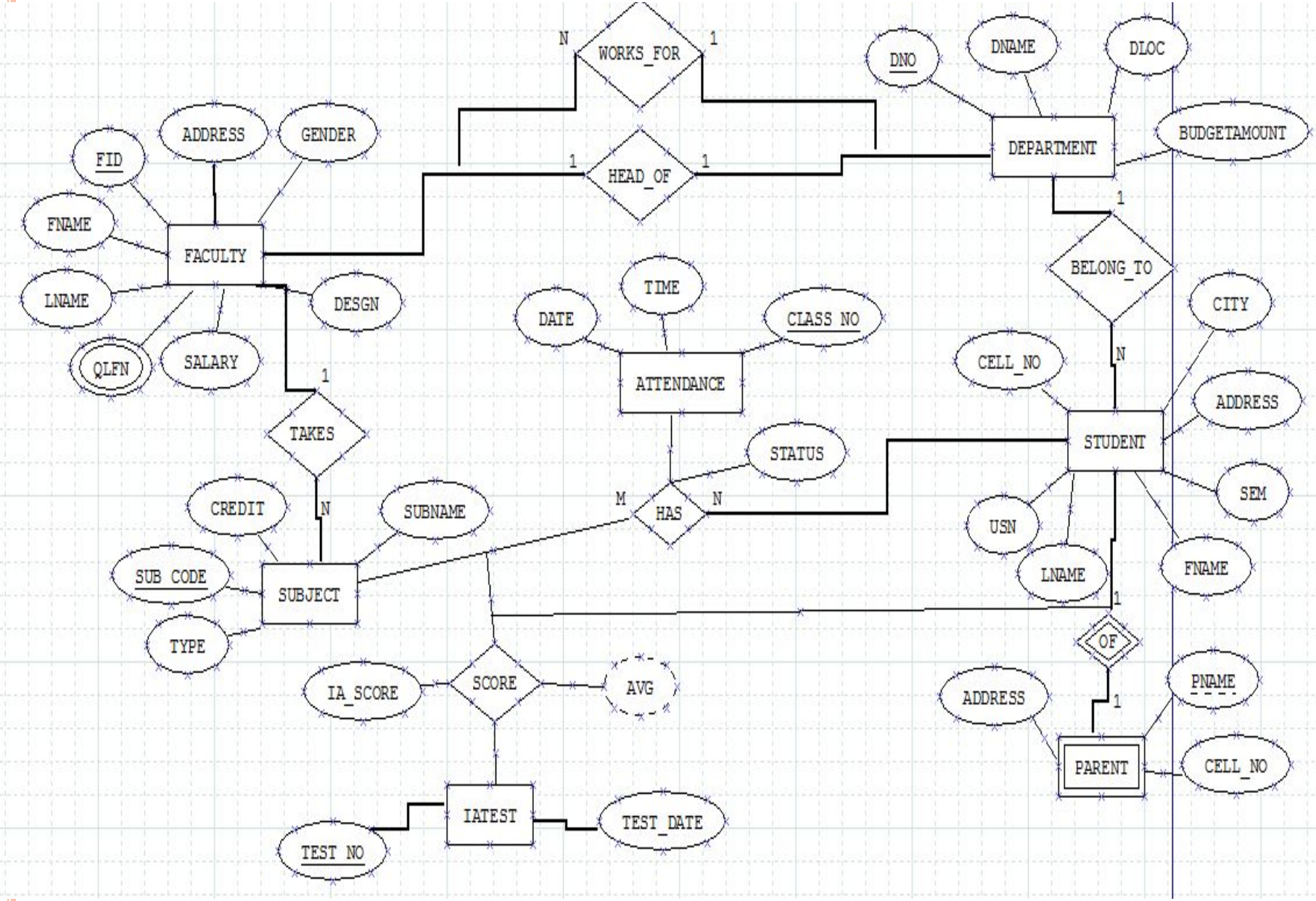
Attributes on relationship

- Subject Score_of IaTest
  - (Iascore, avg) – since avg can be obtained from Iascore, it's a derived attribute).
- Student has attendance
  - (status)

- Now we know,
  - Entities
  - Attributes
  - Key attributes
  - Relationships
  - Cardinality ratio
  - Attributes on realtion
- Please draw the ER Diagram

Thank You

ER - DIAGRAM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