CSE 5330 PROJECT 1

Part -2
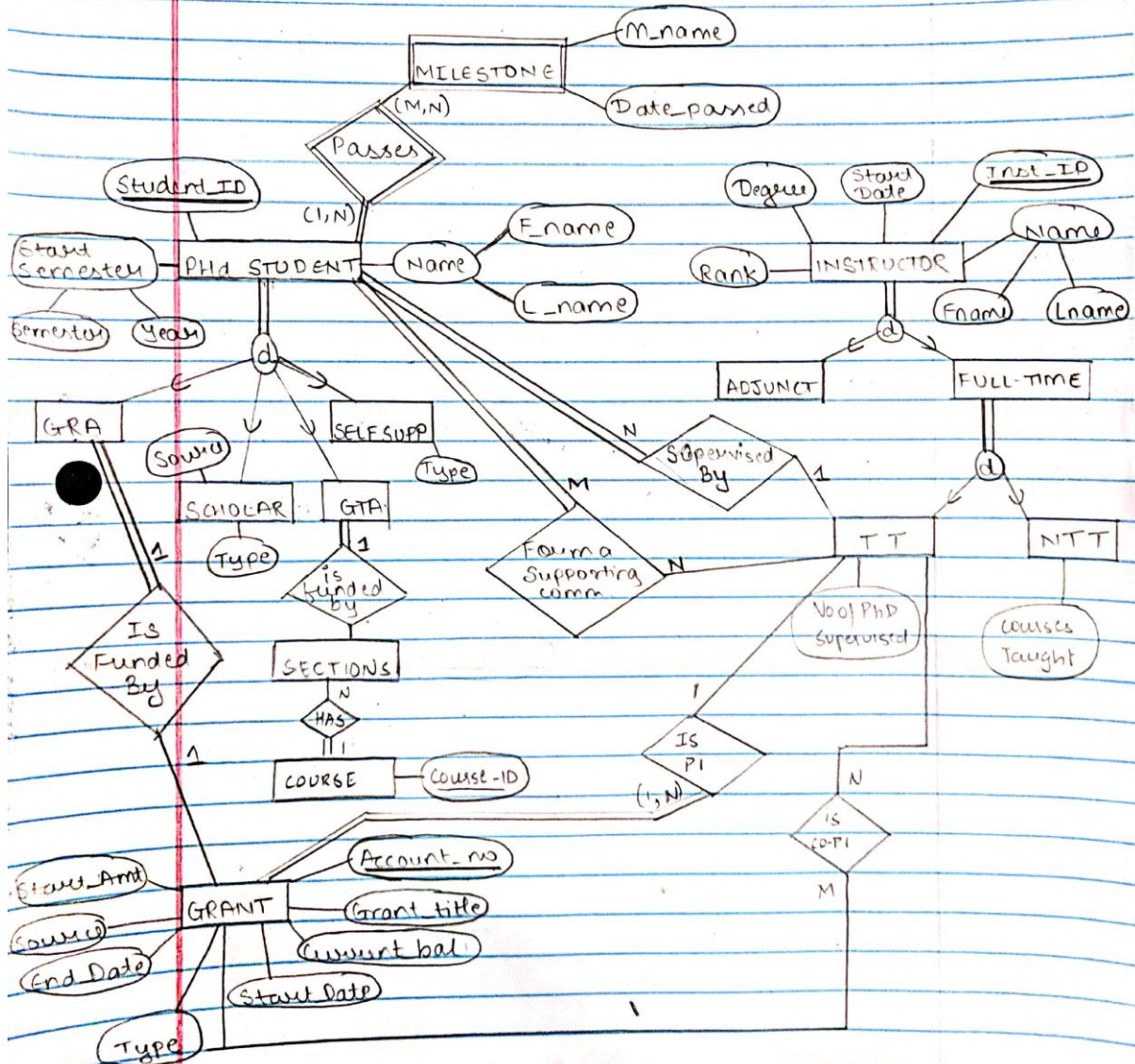
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Description

- PhD_STUDENT, INSTRUCTOR, GRANT, MILESTONE, COURSE and SECTIONS are the primary entities with their respective attributes.
- PhD_STUDENT is a super-class which is divided into GRA, SCHOLAR, GTA and SELF_SUPP with disjoint constraints.
- Funding for GRA is a 1-1 relation with GRANT. Funding for GTA is a 1-1 relation with COURSE which has 1-N SECTIONS.
- We have added Course_ID as a primary attribute for COURSE in order to keep track of the COURSE and the SECTIONS wrt their relationship with GTA.
- INSTRUCTOR is a super-class which is divided into ADJUNCT and FULL-TIME with the disjoint constraint. The FULL-TIME entity is further divided into TT(Tenure track) and NTT(Non Tenure Track). • Every PhD_STUDENT is supervised by 1 TT INSTRUCTOR which is shown by N-1 relation. • Every PhD_STUDENT forms a supervising committee of TT INSTRUCTOR which is shown by M-N relation.
- Every PhD_STUDENT passes multiple MILESTONE (weak entity) which is represented by a min-max relationship.
- Each grant has 1 PI which is a Tenure Track Instructor and may have 1 or more Co-PI which are also Tenure Track Instructors.

EER Diagram

① Conceptual schema database design using EER model.

MILESTONE — M_name, Date_passed

Passes (M,N)

(1,N)

Student_ID

PHd STUDENT — Name, F_name, L_name

Start Semester — Semester, Year

INSTRUCTOR — Degree, Start Date, Inst_ID, Name, Rank, Fnam, Lname

d

GRA — Sourd

SELF SUPP — Type

SCHOLAR — Type

GTA

ADJUNCT   FULL-TIME

d

Supervised By   N   1

Form a Supporting comm   M   N

is funded by   1

IS Funded By   1

SECTIONS   N

HAS   1

COURSE — Course-ID

TT   NTT

No of PhD Supervised   Courses Taught

IS PI (1,N)   1

IS CO-PI   N   M

GRANT — Account_no, Grant_title, Current bal, Start Date, Start_Amt, Sourd, End Date, Type

Relational Schema – Tabular Form

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RELATIONAL SCHEMA — TABULAR FORM

MILESTONE

Student_ID	M_name	Date	Passed

Phd·STUDENT

Student_ID	Semester	Year	Fname	Lname	Super_ID

INSTRUCTOR

Inst_ID	Fname	Lname	Start_Date	Degree	Rank	Adj_Flag

GRANT

PIID	Account_no	Title	Current_bal	Start_Date	EndDate	Type	Source	St_Amt

GRA

Student_ID	Grant_ID

SCHOLAR

Student_ID	Source	Type

GTA

Student_ID	Course_ID	Section

SELF_SUPP

Student_ID	Type

FULL_TIME

Inst_ID	TT_Flag	NTT_Flag	No-of-Phd-supervised	courses taught

COMMITTEE

Student_ID	Inst_ID

IS_COPI

Inst_ID	Account_No

Single Line