

Database Management Systems

Task 1: Entity-Relationship Schema Design

Entities, Attributes, Discriminators and Keys

✓ CSEStudent	3
✓ username	2
✓ name	2
✓ username is specified as the primary key	2
✓ Faculty	3
✓ username	2
✓ name	2
✓ roomNo	2
✓ facultyCode	2
username is specified as the primary key	0
✓ FYP	3
✓ title	2
✓ description	2
✓ category	2
✓ type	2
✓ otherRequirements	2
✓ minStudents	2
✓ maxStudents	2
isAvailable	0
✓ ProjectGroup	3
✓ groupCode	2
✓ RequirementGrades	3
proposalReport	0
progressReport	0
finalReport	0
presentation	0
Additional Deductions (specify below)	-5
add a primary key for FYP(-1), use GroupId as key for Project Group(-2), two keys for Faculty(-2)	

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Relationships, Relationship Attributes and Relationship Constraints

✓ AssignedTo (between FYP and ProjectGroup)	2
✓ min-card(FYP, <i>AssignedTo</i>)=0	0.5
✓ max-card(FYP, <i>AssignedTo</i>)=N	0.5
✓ min-card(ProjectGroup, <i>AssignedTo</i>)=0	0.5
✓ max-card(ProjectGroup, <i>AssignedTo</i>)=1	0.5
✓ Gives (between Faculty and RequirementGrades)	2
✓ min-card(Faculty, <i>Gives</i>)=0	0.5
✓ max-card(Faculty, <i>Gives</i>)=N	0.5
min-card(Grade, <i>Gives</i>)=1	0
max-card(Grade, <i>Gives</i>)=N	0
specified as identifying relationship	0
✓ Has (between CSEStudent and RequirementGrades)	2
✓ min-card(CSEStudent, <i>Has</i>)=0	0.5
✓ max-card(CSEStudent, <i>Has</i>)=2	0.5
✓ min-card(Requirementtp, <i>Has</i>)=1	0.5
✓ max-card(Requirementtp, <i>Has</i>)=1	0.5
✓ specified as identifying relationship	2
✓ InterestedIn (between FYP and ProjectGroup)	2
✓ min-card(FYP, <i>InterestedIn</i>)=0	0.5
✓ max-card(FYP, <i>InterestedIn</i>)=N	0.5
✓ min-card(ProjectGroup, <i>InterestedIn</i>)=0	0.5
✓ max-card(ProjectGroup, <i>InterestedIn</i>)=N	0.5
✓ priority	2
✓ MemberOf (between CSEStudent and ProjectGroup)	2
✓ min-card(CSEStudent, <i>MemberOf</i>)=0	0.5
✓ max-card(CSEStudent, <i>MemberOf</i>)=1	0.5
✓ min-card(ProjectGroup, <i>MemberOf</i>)=1	0.5
✓ max-card(ProjectGroup, <i>MemberOf</i>)=4	0.5
specified as identifying relationship	0
✓ ReaderFor (between Faculty and ProjectGroup)	2
✓ min-card(Faculty, <i>ReaderFor</i>)=0	0.5
✓ max-card(Faculty, <i>ReaderFor</i>)=N	0.5
✓ min-card(ProjectGroup, <i>ReaderFor</i>)=0	0.5
✓ max-card(ProjectGroup, <i>ReaderFor</i>)=1	0.5

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✓ Supervises (between Faculty and ProjectGroup)	2
min-card(Faculty, Supervises)=0	0
✓ max-card(Faculty, Supervises)=N	0.5
✓ min-card(FYP, Supervises)=1	0.5
✓ max-card(FYP, Supervises)=2	0.5
specified as identifying relationship	0
Additional Deductions (specify below)	0
Presentation (specify any comments below)	5
Total Marks	75.5