

Workshop 04 ER Models

Sunday, 15 August 2021 10:27 PM

16/08/2021 Monday.

Take your time with this workshop
Will be assessed in mid-sem and exam assessments

(1) Simple Airport Scenario

Entity Sets	Keys	Other Attributes
Passengers	ticketno	name, phoneno
Flights	Flightno, departtime, departdate	Seats
Gates	gateno	Intercomno
Seats	seatno	class

Relationship Sets	Between which entities?	Attributes
books	Passengers & Seats	bags, checkintime
DepartThrough	Flights & Gates	
on	Seats & Flights	

Relationship Sets	Cardinality Constraints	Participation / other constraints
books	1-1	Seat can exist without a passenger but a passenger can't
DepartThrough	For a flight it has to go through 1 gate but a gate can be used by many flights	Partial participation for Gates and total participation for Flights
On	Flight can have many seats and a specific seat can be on only 1 flight	Total participation both ends

Comments: Make seats on a flight its own entity (weak) simplify and recheck.

(2) Car Racing Competition

Entity Sets	Keys	Other Attributes
Drivers	racelicenseno	Firstname, lastname, phoneno, webpage, address
Races	code	name, country
Teams	code	name, sponsor, contactname
Car	carno	make
ContactPerson	name	address, phoneno

Relationship Sets	Between which entities?	Attributes
Racing-in	Driver & Races	
Contracted	Driver & Team	
Represents	ContactPerson & Team	

Relationship Sets	Cardinality Constraints	Participation / other constraints
Racing-in	1-N	Total participation
Contracted	1-N	Total participation
Represents	1-1	Total participation

(3) Patients Database

Entity Sets	Keys	Other Attributes
Patients	patientID	Firstname, surname, dob
Doctors	regno	Firstname, surname, spec, graddate
Consultations	regno, date, time	PatientID,
Illnesses	illcode	Name, desc
Medicines	medcode	Name, cost

Relationship Sets	Between which entities?	Attributes
For	Consultations & Patients	
Treats	Consultations & Doctors	
Prescriptions	Consultations & Medicines	
Diagnosis	Consultations & Illnesses	

Relationship Sets	Cardinality Constraints	Participation / other constraints
For	1-1	Partial Participation
Treats	1-1	Partial participation
Prescriptions	1-N	Partial participation
Diagnosis	1-N	Partial participation

(4) Resident of a city

Entity Sets	Keys	Other Attributes
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Residents	citizenID	Name, gender and dob
Birth Locations	Birthregno, OR city, state, country	Is-A relatgionship
Families	familyID	Name, address, members, head (who is also a member)

Relationship Sets	Between which entities?	Attributes
Born-in	Resident & Birth-Location	
Belongs-to	Resident & Family	

Relationship Sets	Cardinality Constraints	Participation / other constraints
Born-in	1-1	Total Participation
Belongs-to	1-1	Total participation