Programming Assignment Unit 1 – Solution

Doctor Relation

DoctorID	Number	This uniquely identifies Doctor relation.
		Null constraint, Entity integrity constraint, Unique constraint:
Name Phone	Text Number	This is the primary key of Doctor relation.
		Null constraint: Every doctor has a name.
		Note that Name refers to name and surname of the doctor.
		This is a design choice. Alternatively, there can be two
		attributes as Name and Surname.
		Null constraint: Every doctor has a phone number.
		Semantic integrity constraint: The phone number has a
		specific format that should be validated (This is not
		required in your peers assignment)
SpecialtyNumber	Number	Null constraint: Every doctor has a specialty. This is an
		identifier for the specialty.
Specialty	Text	Null constraint: This describes the specialty of a doctor.

Primary key : DoctorID

Candidate keys : Name, Phone

Name, Phone, SpecialtyNumber

Degree of relation: 5

PatientID	Number	This uniquely identifies Patient relation.
		Null constraint, Entity integrity constraint, Unique constraint:
		This is the primary key of Patient relation.
Name	Text	Null constraint: Every patient has a name.
		Note that Name refers to name and surname of the patient.
		This is a design choice. Alternatively, there can be two
		attributes as Name and Surname.
		Null constraint: Every patient has a phone number.
Phone	Number	Semantic integrity constraint: The phone number has a specific format that should be validated (This is not required in your peers' assignment).
		It is possible that patient doesn't have an e-mail address.
Email	Text	Semantic integrity constraint: E-mail has a specific format that should be validated (This is not required in your peers' assignment).
Address	Text	Null constraint: Every patient has an address.
AddedDate	Date	Null constraint: This is the registration date of patient to hospital. Every patient should have a registration date. Semantic integrity constraint: Date has a specific format that should be validated (This is not required in your peers'
		assignment).
Allergies	Text	Patient may not have any allergies.
DoctorID	Number	Null constraint: Each patient is admitted by one doctor
		Referential integrity constraint: DoctorID is a foreign key to the Doctor relation.

Primary key : PatientID

Candidate keys : Name, Phone

Name, Address

Degree of relation: 8

Appointment Relation

AppointmentID Number Null constraint, Entity integrity constraint, Unique constraint: This is the primary key of Appointment relation. Null constraint: There should be a doctor for each appointment. Referential integrity constraint: DoctorID is a foreign key to the Doctor relation. Number Number PatientID Number Number Referential integrity constraint: PatientID is a foreign key to the Patient relation. Null constraint: This is the registration date of patient to hospital. Every patient should have a registration date. Semantic integrity constraint: Date has a specific format that should be validated (This is not required in your peers' assignment). BloodPressure Number Number Number Null constraint: During each appointment, blood pressure of the patient is stored. Null constraint: During each appointment, weight of the patient is stored. TreatmentNotes Text Null constraint: During each appointment, doctor writes about treatment of patient. During appointment doctor may or may not prescribe			This uniquely identifies Appointment relation.
DoctorID Number Numb	AppointmentID	Number	Null constraint, Entity integrity constraint, Unique constraint:
DoctorID Number Referential integrity constraint: DoctorID is a foreign key to the Doctor relation. Null constraint: There should be a patient for each appointment. Referential integrity constraint: PatientID is a foreign key to the Patient relation. Null constraint: This is the registration date of patient to hospital. Every patient should have a registration date. Semantic integrity constraint: Date has a specific format that should be validated (This is not required in your peers' assignment). BloodPressure Number Number Number Number Null constraint: During each appointment, blood pressure of the patient is stored. Number Number Number Number Null constraint: During each appointment, weight of the patient is stored. TreatmentNotes Text During appointment doctor may or may not prescribe			This is the primary key of Appointment relation.
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	Medicines	Text	During appointment doctor may or may not prescribe
medicine/s			medicine/s

Primary key : AppointmentID

Candidate key : DoctorID, PatientID, AppointmentDate

Degree of relation: 8