

Programming Assignment Unit 1

University of the People

CS 2203 Databases 1

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Programming Assignment Unit 1

Entity set

No.	Entity set	Type
1	Doctor	Strong
2	Patient	Strong
3	Appointment	Strong

Doctor Relation

Attributes	Description	Data Type
Doctor_ID	<p>It is the selected candidate key to uniquely identify tuple in this table.</p> <p>It is the primary key of Doctor relation, it should be</p> <ul style="list-style-type: none"> • Entity integrity constraint • Null constraint • Unique constraint 	Numeric
Doctor_Name	<p>Assuming that each doctor should have a name, so it must be</p> <ul style="list-style-type: none"> • Null constraint 	Text
Doctor_Phone	<p>Assuming that each doctor should have a phone number, so it must be</p> <ul style="list-style-type: none"> • Null constraint 	Numeric

Doctor_Specialty_Number	Assuming that each doctor have a specialty number as it is the identifier for specialty, so it must be <ul style="list-style-type: none"> Null constraint 	Numeric
Doctor_Specialty	It indicates every doctor's specialty, so it must be <ul style="list-style-type: none"> Null constraint 	Text

Primary key: Doctor_ID

Candidate key: Doctor_Name, Doctor_Phone / Doctor_Name, Doctor_Phone,

Doctor_Specialty_Number

Relation Degree: 5

Patient Relation

Attributes	Description	Data Type
Patient_ID	It is the selected candidate key to uniquely identify tuple in this table. It is the primary key of Patient relation, it should be <ul style="list-style-type: none"> Entity integrity constraint Null constraint Unique constraint 	Numeric
Patient_Name	Assuming that each patient has a name, so it must be <ul style="list-style-type: none"> Null constraint 	Text
Patient_Phone	Assuming that each doctor has a phone number, so it must be	Numeric

	<ul style="list-style-type: none"> Null constraint 	
Patient_Email	Assuming that some patients don't have an email address, so it cannot be null constraint.	Text
Patient_Address	Assuming that each patient has an address, so it must be <ul style="list-style-type: none"> Null constraint 	Text
Patient_Added_date	It is the day that each patient has come in the hospital, so each patient should have an added date. Then, it must be <ul style="list-style-type: none"> Null constraint 	Date
Patient_Allergies	Not all patients have allergies some of them don't have, so it cannot be null constraint.	Text
Patient_Doctor_ID	Assuming that each patient should see a doctor, so it must be <ul style="list-style-type: none"> Null constraint Also, we already have Doctor_ID in the Doctor relation, so it is a foreign key. Hence it must be <ul style="list-style-type: none"> Referential integrity constraint 	Numeric

Primary key: Patient_ID

Candidate key: Patient_Name, Patient_Phone / Patient_Name, Patient_Address

Relation Degree: 8

Appointment Relation

Attributes	Description	Data Type
Appointment_ID	<p>It is the selected candidate key to uniquely identify tuple in this table.</p> <p>It is the primary key of Appointment relation, it should be</p> <ul style="list-style-type: none"> • Entity integrity constraint • Null constraint • Unique constraint 	Numeric
Appointment_Doctor_ID	<p>Assuming there is a doctor for every appointment, so it must be</p> <ul style="list-style-type: none"> • Null constraint <p>Since, Doctor_ID is an attribute in the Doctor Relation, it is a foreign key. So, it must be</p> <ul style="list-style-type: none"> • Referential integrity constraint 	Numeric
Appointment_Appointment_Patient_ID	<p>Assuming there is a patient for every appointment, so it must be</p> <ul style="list-style-type: none"> • Null constraint <p>Since, Patient_ID is an attribute in the Patient Relation, it is a foreign key. So, it must be</p> <ul style="list-style-type: none"> • Referential integrity constraint 	Numeric

Appointment_Date	It is the day that each patient has come in the hospital, so each patient should have an added date. Then, it must be <ul style="list-style-type: none"> • Null constraint 	Date
Blood_Pressure	Assuming that blood pressure was taken for each appointment, so it must be <ul style="list-style-type: none"> • Null constraint 	Numeric
Weight	Assuming that weight was taken for each appointment, so it must be <ul style="list-style-type: none"> • Null constraint 	Numeric
Treatment_Notes	Assuming that treatment notes were taken for each appointment, so it must be <ul style="list-style-type: none"> • Null constraint 	Text
Medicines	Assuming that it is the physician's decision whether the patient needs medicine or not, so it cannot be null constraint.	Text

Primary key: Appointment_ID

Candidate key: Appointment_Doctor_ID, Appointment_Patient_ID, Appointment_Date

Relation Degree: 8