A222 STID3014(F) DATABASE SYSTEM AND INFORMATION RETRIEVAL

GROUP ASSIGNMENT 2

PREPARED FOR: Dr. Syahida binti Hassan

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Assignment 2 - Normalization
Deadline: 14 June 2023 6pm (via Online Learning)

The following table shows the appointment record for Week 1, July 2023.

ID	Patient Name	DOB	Age	Disease Code	Disease	Descriptions	Staff ID	Medical Officer	Dept ID	Department	Appointment Date	Time	Treatment Note
3211	Sandra Teo	21/1/49	74	411	Cardiovascular Disease	Chronic ischemic heart disease	965	Calliope Torres	C1	Cardiology	1/7/2023	8.30am	Consultation
				355	Hypertension	High blood Pressure	431	Derek Shepherd	FM	Family Medicine	1/7/2023	11.30am	Blood Test
3241	T.J. Right	23/9/53	70	643	Osteoarthritis	Degenerative joint disease or "wear and tear" arthritis	675	Izzie Stevens	R	Rheumatology	1/7/2023	8.30am	Physiotherapy
3214	Tesse Williams	24/1/50	73	311	Diabetes Mellitus	A group of diseases that affect how the body uses blood sugar (glucose)	754	Christina Yang	E	Endocrinology	4/7/2023	11.30am	Blood Test
3125	Justin Kimberly	1/3/53	70	532	Osteoporosis	A bone disease	543	Lee Ik Jun	R	Rheumatology	4/7/2023	10.00am	Physiotherapy
				Y678	Dementia	Impaired ability to remember, think, or make decisions	348	Chae Song Hwa	N	Neurology	5/7/2023	9.00am	TBD
				411	Cardiovascular Disease	Chronic ischemic heart disease	371	Kim Jun Wan	C1	Cardiology	5/7/2023	11.00am	Consultation
3443	Whiti Kapea	6/4/53	70	Y678	Dementia	Impaired ability to remember, think, or make decisions	632	Meredith Grey	N	Neurology	5/7/2023	9.00am	MRI
				643	Osteoarthritis	degenerative joint disease or "wear and tear" arthritis	675	Izzie Stevens	R	Rheumatology	5/7/2023	11.00am	Consultation
3278	Ingrid Johnston	8/8/57	66	411	Cardiovascular Disease	Chronic ischemic heart disease	371	Kim Jun Wan	C1	Cardiology	6/7/2023	9.00am	Consultation
				355	Hypertension	High blood Pressure	431	Derek Shepherd	FM	Family Medicine	6/7/2023	2.00pm	X-Ray

Identify all functional dependencies and perform a normalization process for the following table.

(Partial Dependency)
ID → Patient Name, DOB, Age
Disease Code → Disease, Descriptions
Staff ID → Medical Officer, Dept ID, Department

(Transitive Dependency)
Dept ID → Department

(Full Dependency)
ID, Staff ID, Disease Code, Appointment Date → Patient Name, DOB, Age, Disease, Descriptions, Time, Treatment Note, Medical Officer, Dept ID, Department

1-NF
Record (<u>ID</u>, <u>Staff ID</u>, <u>Disease Code</u>, <u>Appointment Date</u>, Patient Name, DOB, Age, Disease, Descriptions, Medical Officer, Dept ID, Department, Time, Treatment Note)

2-NF
Patient (<u>ID</u>, Patient Name, DOB, Age)
Staff (<u>Staff ID</u>, Medical Officer, Dept ID, Department)
Record (<u>ID</u>, <u>Staff ID</u>, <u>Disease Code</u>, <u>Appointment Date</u>, Time, Treatment Note)
Disease (<u>Disease Code</u>, Disease, Descriptions)

3-NF
Patient (<u>ID</u>, Patient Name, DOB, Age)
Staff (<u>Staff ID</u>, Medical Officer, Dept ID)
Record (<u>ID</u>, <u>Staff ID</u>, <u>Disease Code,</u> <u>Appointment Date</u>, Time, Treatment Note)
Disease (<u>Disease Code</u>, Disease, Descriptions)
Department (<u>Dept ID</u>, Department)