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Hospital db – Databases and tables

1. Create a database “**hospital_db**”
2. Exercise -01
 - Create tables for Physician, Department
 - Insert values into them
 - Understand Primary and Foreign Keys and table relationships
3. Exercise -02
 - Create tables for Affiliated_With, Procedures, Trained_In, Patient
 - Insert values into them
4. Exercise -03
 - Create tables for Nurse, Procedures, Appointment, Medication
 - Insert values into them
5. Exercise -04
 - Create tables for Prescribes, Block, Room, On_Call, Stay, Undergoes
 - Insert values into them

Putting them together:

1. Create a new database **hospital_database**
2. Create scripts from one file
3. Insert data into **hospital_database** from one data file

Putting backup and restore:

1. Take the back up of **hospital_database**
2. Restore it as a new database **hospital_database_new**

SQL Exercise

select * from department;

```
1 select * from department;
2
3
```

	departmentid [PK] integer	name character varying (30)	head integer
1	1	General Medicine	4
2	2	Surgery	7
3	3	Psychiatry	9

select * from physician ;

```
3 select * from physician ;|
```

	employeeid [PK] integer	name character varying (30)	position character varying (30)	ssn integer
1	1	John Dorian	Staff Internist	111111111
2	2	Elliot Reid	Attending Physician	222222222
3	3	Christopher Turk	Surgical Attending Physician	333333333
4	4	Percival Cox	Senior Attending Physician	444444444
5	5	Bob Kelso	Head Chief of Medicine	555555555
6	6	Todd Quinlan	Surgical Attending Physician	666666666
7	7	John Wen	Surgical Attending Physician	777777777

select * from affiliated_with;

```
3 select * from affiliated_with;
```

	physician [PK] integer	department [PK] integer	primaryaffiliation boolean
1	1	1	true
2	2	1	true
3	3	1	false
4	3	2	true
5	4	1	true
6	5	1	true
7	6	2	true

select * from patient

4 `select * from patient;`

Data Output Explain Messages Notifications

	ssn [PK] integer	name character varying (30)	address character varying (30)	phone character varying (30)	insuranceid integer	pcp integer
1	100000001	John Smith	42 Foobar Lane	555-0256	68476213	1
2	100000002	Grace Ritchie	37 Snafu Drive	555-0512	36546321	2
3	100000003	Random J. Patient	101 Omgbq Street	555-1204	65465421	2
4	100000004	Dennis Doe	1100 Foobaz Avenue	555-2048	68421879	3

`select * from nurse;`

5 `select * from nurse;`

Data Output Explain Messages Notifications

	employeeid [PK] integer	name character varying (30)	position character varying (30)	registered boolean	ssn integer
1	101	Carla Espinosa	Head Nurse	true	111111110
2	102	Laverne Roberts	Nurse	true	222222220
3	103	Paul Flowers	Nurse	false	333333330

`select * from appointment;`

6 `select * from appointment;`

7

Data Output Explain Messages Notifications

	appointmentid [PK] integer	patient integer	prepnurse integer	physician integer	startdate timestamp without time zone	enddate timestamp without time zone	examinationroom text
1	13216584	100000001	101	1	2008-04-24 10:00:00	2008-04-24 11:00:00	A
2	26548913	100000002	101	2	2008-04-24 10:00:00	2008-04-24 11:00:00	B
3	36549879	100000001	102	1	2008-04-25 10:00:00	2008-04-25 11:00:00	A
4	46846589	100000004	103	4	2008-04-25 10:00:00	2008-04-25 11:00:00	B
5	59871321	100000004	[null]	4	2008-04-26 10:00:00	2008-04-26 11:00:00	C
6	69879231	100000003	103	2	2008-04-26 11:00:00	2008-04-26 12:00:00	C
7	76983231	100000001	[null]	3	2008-04-26 12:00:00	2008-04-26 13:00:00	C
8	86213939	100000004	102	9	2008-04-27 10:00:00	2008-04-21 11:00:00	A
9	93216548	100000002	101	2	2008-04-27 10:00:00	2008-04-27 11:00:00	B

--find general medicine doctors name

`select a.name, b.department, c.name from physician a`

`join affiliated_with b`

`join department c`

`on c.departmentid= b.department`

`on b.physician = a.employeeid`

where b.department=2

```
8 select a.name, b.department, c.name from physician a
9 join affiliated_with b
10 join department c
11 on c.departmentid= b.department
12 on b.physician = a.employeeid
13 where b.department=2
```

Data Output Explain Messages Notifications

	name character varying (30)	department integer	name character varying (30)
1	Christopher Turk	2	Surgery
2	Todd Quinlan	2	Surgery
3	John Wen	2	Surgery

--find which patient - doctor visit

select a.name patient_name, b.name doctor_name from patient a

join physician b

on a.pcp = b.employeeid

```
16 --find which patient - doctor visit
17 select a.name patient_name, b.name doctor_name from patient a
18 join physician b
19 on a.pcp = b.employeeid
```

Data Output Explain Messages Notifications

	patient_name character varying (30)	doctor_name character varying (30)
1	John Smith	John Dorian
2	Grace Ritchie	Elliot Reid
3	Random J. Patient	Elliot Reid
4	Dennis Doe	Christopher Turk

--find room details

select * from room

select unavailable, count(*) from room

group by unavailable

```

22 select * from room;
23 select unavailable, count(*) from room
24 group by unavailable
25

```

Data Output Explain Messages Notifications

	unavailable boolean	count bigint
1	false	28
2	true	8

--total patient count on blockcode=2

select count(*) from room where blockcode=2

```

7 select count(*) from room where blockcode=2

```

Data Output Explain Messages Notifications

	count bigint
1	12

--check procedure details

select * from undergoes

```

29 --check procedure details
30 select * from undergoes
31

```

Data Output Explain Messages Notifications

	patient [PK] integer	procedures [PK] integer	stay [PK] integer	dateundergoes [PK] timestamp without time zone	physician integer	assistingnur integer
1	100000001	6	3215	2008-05-02 00:00:00		3
2	100000001	2	3215	2008-05-03 00:00:00		7
3	100000004	1	3217	2008-05-07 00:00:00		3
4	100000004	5	3217	2008-05-09 00:00:00		6
5	100000001	7	3217	2008-05-10 00:00:00		7
6	100000004	4	3217	2008-05-13 00:00:00		3

-- find hospital workload such as procedure time and doctors, nurse details

select a.name as doctor_name, b.name as nurse_name, c.dateundergoes as proceduretime
from physician a

join nurse b

join undergoes c

on b.employeeid= c.assistingnurse

on a.employeeid = c.physician

where c.physician=3

```
3 select a.name as doctor_name, b.name as nurse_name, c.dateundergoes as procedurertime
4 from physician a
5 join nurse b
6 join undergoes c
7 on b.employeeid= c.assistingnurse
8 on a.employeeid = c.physician
9 where c.physician=3
```

Data Output Explain Messages Notifications

doctor_name	nurse_name	procedurertime
character varying (30)	character varying (30)	timestamp without time zone
Christopher Turk	Carla Espinosa	2008-05-02 00:00:00
Christopher Turk	Laverne Roberts	2008-05-07 00:00:00
Christopher Turk	Paul Flowers	2008-05-13 00:00:00

--patient medication and prescription details

select * from medication;

select a.name, b.dose, c.name,c.brand from patient a

join prescribes b

join medication c

on c.code = b.medication

on a.ssn = b.patient

```
41 --patient medication and prescription details
42 select * from medication;
43 select a.name, b.dose, c.name,c.brand from patient a
44 join prescribes b
45 join medication c
46 on c.code = b.medication
47 on a.ssn = b.patient
```

Data Output Explain Messages Notifications

name	dose	name	brand
character varying (30)	character varying (30)	character varying (30)	character varying (30)
1 John Smith	5	Procrastin-X	X
2 Dennis Doe	10	Thesisin	Foo Labs
3 Dennis Doe	5	Thesisin	Foo Labs

--trained in procedures

select * from procedures;

select * from trained_in;

select treatment, count(*) from trained_in group by treatment

```
49 --trained in procedures
50 select * from procedures;
51 select * from trained_in;
52 select treatment, count(*) from trained_in group by treatment;
```

Data Output Explain Messages Notifications

	treatment integer	count bigint	
1	3	1	
2	5	3	
3	4	1	
4	6	3	
5	2	3	
6	7	2	
7	1	2	