Gabelli School of Business
Fordham University
ISGB 7973 – Data Management and SQL – Fall 2025
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Assignment 3: SQL

1. List each physician's ID and name and the date they were hired.

SELECT phy#, phyname, datehired
FROM physician;

PHY#	PHYNAME	DATEHIRED
123	Dolly Maclein	2/1/85
222	Rachel Monthaven	4/22/87
234	Elizabeth Johnson	3/1/86
333	Sally Theil	2/1/85
444	Tom Nguyen	11/15/85
555	Ingrid Jones	5/5/87
666	Mark Hensel	6/6/86
678	Laverne Smith	3/4/88
777	Tim Borheim	7/7/87
890	Mark Runyon	6/3/85

2. List the names and phone numbers of all patients who do NOT live in Fremont.

SELECT patname, phone
FROM patient
WHERE city NOT IN 'Fremont';

PATNAME	PHONE
Anne Mathews	916-894-9999
Farouk Mohammad	916-896-5678
John Samuelson	916-676-7676
Tim Anderson	916-898-7877
Maive Cummings	916-898-4555
James Fisher	916-898-9898
Leonardo Martinez	415-565-7777
James Martin	916-895-4566
wull raghu	522-592-1223

3. Update the patient named 'Maive Cummings' by setting her city to 'New York' and her phone number to '806-722-1743'.

UPDATE patient
SET city = 'New York',
phone = '806-722-1743'
WHERE patname = 'Maive Cummings';

(Row Updated)

4. Show me the drug descriptions, their costs, and a risk level that says 'High Risk' for stock levels above 200 and 'Low Risk' for stock levels 200 or below.

SELECT description, cost,
CASE WHEN stock > 200 THEN 'High Risk'
ELSE 'Low Risk'
END AS risklevel
FROM drug;

DESCRIPTION	COST	RISKLEVEL
Tylenol	40	High Risk
Bayer Headache	35	High Risk
Alka Seltzer	22	High Risk
Pepto Bismol	11	Low Risk
Cortaid	18	Low Risk
Contac	6	Low Risk
Zantac	10	High Risk
Hismanol	110	High Risk
Anbesol	17.5	Low Risk
Penicillin	120	Low Risk

5. List all physician names and any corresponding visit numbers and visit types. Include also the physicians who have not supervised any visits.

SELECT physician.phyname, visit.visit#, visit.vtype_visittype
FROM physician
LEFT OUTER JOIN visit
  ON physician.phy# = visit.physician_phy#;

PHYNAME	VISIT#	VTYPE_VISITTYPE
Dolly Maclein		
Rachel Monthaven	1443	1
Elizabeth Johnson		
Sally Theil		
Tom Nguyen	3351	2
Ingrid Jones	2280	3
Mark Hensel		
Laverne Smith	1222	1
Tim Borheim	1333	2
Tim Borheim	1442	3
Tim Borheim	4555	1
Mark Runyon		

6. Retrieve the visit number and visit type for all visits made by the patient named 'Maive Cummings'

SELECT visit.visit#, visit.vtype_visittype, patient.patname
FROM visit, patient
WHERE patient.patid = visit.patient_patid
AND patname = 'Maive Cummings';

VISIT#	VTYPE_VISITTYPE	PATNAME
1443	1	Maive Cummings

7. Retrieve the patient name, the physician name, and the visit type for the patient 'Leonardo Martinez.'

SELECT patient.patname, physician.phyname, visit.vtype_visittype
FROM patient, physician, visit
WHERE visit.patient_patid = patient.patid
AND visit.physician_phy# = physician.phy#
AND patient.patname = 'Leonardo Martinez';

PATNAME	PHYNAME	VTYPE_VISITTYPE
Leonardo Martinez	Tim Borheim	2

8. For each physician, retrieve their ID, name, the average of their salary, and the total number of visits they have supervised. Order the results by average salary in descending order.

SELECT physician.phy#, physician.phyname, AVG(physician.salary) AS AverageSalary,
COUNT(visit.visit#) AS TotalVisits
FROM physician, visit
WHERE physician.phy# = visit.physician_phy#
GROUP BY physician.phy#, physician.phyname
ORDER BY AverageSalary DESC;

PHY#	PHYNAME	AVERAGESALARY	TOTALVISITS
678	Laverne Smith	45000	1
222	Rachel Monthaven	30000	1
890	Mark Runyon	30000	0
444	Tom Nguyen	28000	1
666	Mark Hensel	24000	0
555	Ingrid Jones	20000	1
333	Sally Theil	18000	0
123	Dolly Maclein	18000	0
777	Tim Borheim	15000	3
234	Elizabeth Johnson	14000	0

9. Retrieve the physician name, the patient's city, and the count of visits for each unique physician and patient city combination.

SELECT physician.phyname, patient.city, COUNT(visit.visit#) AS visit_count
FROM physician, patient, visit
WHERE visit.physician_phy# = physician.phy#
AND visit.patient_patid = patient.patid
GROUP BY physician.phyname, patient.city;

PHYNAME	CITY	VISIT_COUNT
Tim Borheim	San Jose	1
Rachel Monthaven	New York	1
Ingrid Jones	Chico	1
Tim Borheim	Chico	2
Laverne Smith	Chico	1
Tom Nguyen	Fremont	1

10. Retrieve the names of all physicians who have at least one recorded visit.

SELECT physician.phyname
FROM physician, visit
WHERE physician.phy# = visit.physician_phy#
GROUP BY physician.phyname;

PHYNAME
Ingrid Jones
Tom Nguyen
Rachel Monthaven
Tim Borheim
Laverne Smith

11. Retrieve the visit type, date, patient name, and patient phone number for all visits. Order the results by visit type.

SELECT vtype.visittypedesc, visit."DATE", patient.patname, patient.phone
FROM visit, patient, vtype
WHERE visit.patient_patid = patient.patid
AND visit.vtype_visittype = vtype.visittype
ORDER BY vtype.visittypedesc;

VISITTYPEDESC	DATE	PATNAME	PHONE
Bronchitis	7/7/88	Leonardo Martinez	415-565-7777
Bronchitis	12/12/88	Caroline Harris	408-723-6443

Pneumonia	11/12/87	James Martin	916-895-4566
Pneumonia	7/7/89	Anne Mathews	916-894-9999
Pneumonia	6/6/87	Maive Cummings	806-722-1743
Psychoses	6/6/89	Tim Anderson	916-898-7877
Psychoses	4/22/88	James Fisher	916-898-9898

12. Retrieve each physician's specialty and the total number of visits supervised by physicians within that specialty. Order the results by the visit count in descending order.

SELECT physician.specialty, COUNT(visit.visit#) AS totalvisits
FROM physician, visit
WHERE physician.phy# = visit.physician_phy#
GROUP BY physician.specialty
ORDER BY totalvisits DESC;

SPECIALTY	TOTALVISITS
Surgeon	3
Internal Medicine	1
Nurse Practitioner	1
Podiatrist	1
Cardiologist	1

13. List the Drug ID and Description for all drugs that have never been prescribed.

SELECT drug.drug#, drug.description
FROM drug, drug_visit
WHERE drug.drug# = drug_visit.drug_drug#
GROUP BY drug.drug#, drug.description
ORDER BY drug.description;

DRUG#	DESCRIPTION
890	Anbesol
234	Bayer Headache
667	Hismanol
998	Penicillin
558	Zantac

14. Retrieve the ID and name of physicians who have supervised a visit less than one year after their hire date.

SELECT physician.phy#, physician.phyname
FROM physician, visit
WHERE physician.phy# = visit.physician_phy#
AND visit."DATE" < ADD_MONTHS(physician.datehired, 12);

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PHY#	PHYNAME
222	Rachel Monthaven
555	Ingrid Jones
777	Tim Borheim

15. Which patients have purchased the drug "Tylenol"? List the names and addresses. Arrange them in descending order of patient name.

SELECT DISTINCT patient.patname, patient.street
FROM patient, drug, drug_visit, visit
WHERE drug.description = 'Tylenol'
AND drug.drug# = drug_visit.drug_drug#
AND drug_visit.visit_visit# = visit.visit#
AND visit.patient_patid = patient.patid
ORDER BY patient.patname DESC;

(No data found) No patients purchased the drug Tylenol.

16. List the physician names and the number of visits supervised by each physician. Arrange them in descending order of number of visits.

SELECT physician.phyname, COUNT(visit.visit#) AS totalvisits
FROM physician, visit
WHERE physician.phy# = visit.physician_phy#
GROUP BY physician.phyname
ORDER BY totalvisits DESC;

PHYNAME	TOTALVISITS
Tim Borheim	3
Tom Nguyen	1
Laverne Smith	1
Ingrid Jones	1
Rachel Monthaven	1

17. List the Phy# and names of all physicians whose names start with the letter "M."

SELECT physician.phy#, physician.phyname
FROM physician
WHERE phyname LIKE 'M%';

PHY#	PHYNAME
666	Mark Hensel
890	Mark Runyon

18. List the names, addresses and phone# of patients living in Fremont or San Jose. Arrange them in ascending order of the zip.

SELECT patname, street, phone
FROM patient
WHERE city = 'Fremont' OR city = 'San Jose'
ORDER BY zip;

PATNAME	STREET	PHONE
Leonardo Martinez	198 Via Caneles	415-565-7777
Caroline Harris	7 Lod Ave	408-723-6443

19. List the Drug# and description of drugs that were prescribed. Arrange them in ascending order of description.

SELECT drug.drug#, drug.description
FROM drug, drug_visit
WHERE drug.drug# = drug_visit.drug_drug#
GROUP BY drug.drug#, drug.description
ORDER BY drug.description;

DRUG#	DESCRIPTION
890	Anbesol
234	Bayer Headache
667	Hismanol
998	Penicillin
558	Zantac

20. How many patients are there in the database? Give the count.

SELECT COUNT(*) AS patientcount
FROM patient;

PATIENTCOUNT
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21. List Visit#, PatID, Phy#, Drug#, Qnty and Amount. Calculate Amount as Price*Qnty.

SELECT visit.visit#, visit.patient_patid, visit.physician_phy#, drug_visit.drug_drug#,
drug_visit.qnty, (drug.cost * drug_visit.qnty) AS Amount
FROM visit, drug_visit, drug
WHERE visit.visit# = drug_visit.visit_visit#
AND drug_visit.drug_drug# = drug.drug#;

VISIT#	PATIENT_PATID	PHYSICIAN_PHY#	DRUG_DRUG#	QNTY	AMOUNT
1333	777-77-7777	777	234	28	980
1442	345-76-5445	777	667	35	3850
1443	565-45-7878	222	667	18	1980
2280	565-65-6556	555	558	14	140
3351	666-89-5443	444	234	10	350
3351	666-89-5443	444	667	15	1650
3351	666-89-5443	444	890	10	175
3351	666-89-5443	444	998	26	3120
4555	787-56-3455	777	234	6	210
4555	787-56-3455	777	890	60	1050
4555	787-56-3455	777	998	20	2400

22. Which patients have not made any visits? List patient name and address.

SELECT patient.patname, patient.street
FROM patient
WHERE patient.patid NOT IN (SELECT visit.patient_patid FROM visit);

PATNAME	STREET
Farouk Mohammad	Hotel Casto
John Samuelson	34 Niorman Ave
wull raghu	4 luton way