

שלב ב – שאילתות ואילוצים

שאילתות

Select

חזרים עם מעל 5 חולים. מחזיר את שם המחלקה, סוג החדר ושם החולה.

```
SELECT DEPARTMENT.NAME AS DEPARTMENT_NAME,  
       PATIENT.NAME AS PATIENT_NAME, ROOM.TYPE  
FROM PATIENT  
LEFT JOIN ROOM USING (ROOMID)  
LEFT JOIN DEPARTMENT USING (DEPARTMENTID)  
WHERE DEPARTMENTID IN (  
    SELECT DEPARTMENTID  
    FROM (  
        SELECT DEPARTMENTID, COUNT(PATIENTID) AS PATIENT_COUNT  
        FROM PATIENT  
        LEFT JOIN ROOM USING (ROOMID)  
        LEFT JOIN DEPARTMENT USING (DEPARTMENTID)  
        GROUP BY DEPARTMENTID  
    )  
    WHERE PATIENT_COUNT > 5  
);
```

		DEPARTMENT_NAME		PATIENT_NAME		TYPE	
▶	1	Intensive	***	Caitrin Shepley	***	Psychiatric	***
	2	Intensive	***	Josepha Keijser	***	Psychiatric	***
	3	Intensive	***	Eimile Goggin	***	Psychiatric	***
	4	Intensive	***	Lamont Vido	***	Psychiatric	***
	5	Intensive	***	King Ladlow	***	Psychiatric	***

תרופות שעבר עליהם התאריך בזמן שטיפלו איתם.

מחזיר שמות ומספרי טלפון של החולים והרופאים, את התאריכים ואת שם התרופה.

```
SELECT MEDICATION.NAME AS M_NAME, DOCTOR.NAME AS D_NAME, DOCTOR.PHONE AS D_PHONE,  
       PATIENT.NAME AS P_NAME, PATIENT.PHONE AS P_PHONE, EXPIRATIONDATE, TREATMENTDATE  
FROM MEDICATION  
INNER JOIN MEDICATION TREATMENT USING (MEDICATIONID)  
INNER JOIN TREATMENT USING (TREATMENTID)  
INNER JOIN DOCTOR USING (DOCTORID)  
INNER JOIN PATIENT USING (PATIENTID)  
--WHERE EXPIRATIONDATE < TREATMENTDATE  
WHERE EXTRACT(YEAR FROM TREATMENTDATE) > EXTRACT(YEAR FROM EXPIRATIONDATE)  
OR EXTRACT(MONTH FROM TREATMENTDATE) > EXTRACT(MONTH FROM EXPIRATIONDATE)  
OR EXTRACT(DAY FROM TREATMENTDATE) - EXTRACT(DAY FROM EXPIRATIONDATE) > 10
```

		M_NAME		D_NAME		D_PHONE		P_NAME		P_PHONE		EXPIRATIONDATE		TREATMENTDATE
▶	1	Bellis Perennis	***	Rafe Demkowicz	***	686-230-7562		Gino Heigho	***	835-722-0925		20-Jun-11	***	05-Sep-10
	2	Stannum metallicum	***	Garik Astbery	***	418-242-5523		Hall Lighten	***	167-744-3457		24-Jul-20	***	07-Dec-02
	3	Nicotine Polacrilex	***	Garik Astbery	***	418-242-5523		Hall Lighten	***	167-744-3457		10-Jan-06	***	07-Dec-02
	4	Mesquite	***	Dolly Twiggins	***	374-430-9376		Viki MacCulloch	***	630-151-8128		03-Sep-10	***	21-Jan-13
	5	Pulsatilla	***	Myriam Beaglehole	***	404-575-7651		Lucius Allan	***	812-537-6652		23-Sep-19	***	05-Jan-22

תרופות נפוצות שעומדות להיגמר.

ID, שם וכמות של התרופות שמשתמשים בהם הכי הרבה בבית החולים והכמות שלהם במלאי קטנה מ30.

```
SELECT MEDICATIONID, NAME, QUANTITYINSTOCK FROM MEDICATION
WHERE QUANTITYINSTOCK < 30
AND MEDICATIONID IN (
    SELECT MEDICATIONID FROM TREATMENT
    INNER JOIN MEDICATION_TREATMENT USING (TREATMENTID)
    INNER JOIN MEDICATION USING (MEDICATIONID)
    GROUP BY MEDICATIONID
    HAVING COUNT (TREATMENTID) >= ALL (
        SELECT COUNT (TREATMENTID) FROM TREATMENT
        INNER JOIN MEDICATION_TREATMENT USING (TREATMENTID)
        INNER JOIN MEDICATION USING (MEDICATIONID)
        GROUP BY MEDICATIONID
    )
)
ORDER BY QUANTITYINSTOCK
```

	MEDICATIONID	NAME	QUANTITYINSTOCK
1	304	chlorine	6
2	157	Serine	19
3	186	Phosphorus	19
4	411	Terazosin hydrochloride	21
5	895	Ioteprednol etabonate	23

חופאים שטיפלו בהכי הרבה חולים בעשור האחרון.

```
SELECT DOCTORID, NAME, SPECIALTY, PHONE, COUNT (TREATMENTID) AS treat_count
FROM (
    SELECT * FROM DOCTOR
    INNER JOIN TREATMENT USING (DOCTORID)
    WHERE TREATMENTDATE >= TO_DATE ('2004', 'YYYY')
)
GROUP BY DOCTORID, NAME, SPECIALTY, PHONE
HAVING COUNT (TREATMENTID) >= 5
ORDER BY treat_count DESC
```

	DOCTORID	NAME	SPECIALTY	PHONE	TREAT_COUNT
1	374	Goran Dabourne	Obstetrics	879-503-5006	7
2	92	Sayre Lavalde	Obstetrics	749-342-7907	6
3	377	Silvie Capron	Psychiatry	234-850-1453	6
4	361	Berky Umbers	Laboratory	525-474-6832	5
5	149	Robenia Carrabott	Neurology	902-146-0537	5

Delete

סגירת מחלקות ללא רופאים וחדרים

		COUNT_BEFORE	
▶	1		500

[18:55:11] 67 rows deleted

		COUNT_AFTER	
▶	1		433

```
SAVEPOINT sav1;

SELECT COUNT(*) as count_before FROM DEPARTMENT;

DELETE FROM DEPARTMENT D
WHERE NOT EXISTS (
    SELECT DEPARTMENTID
    FROM DOCTOR
    WHERE D.DEPARTMENTID = DOCTOR.DEPARTMENTID
)
AND DEPARTMENTID NOT IN (
    SELECT DISTINCT DEPARTMENTID
    FROM ROOM
);

SELECT COUNT(*) as count_after FROM DEPARTMENT;

ROLLBACK TO sav1;
```

פיטור רופאים שנתנו לחולים תרופות שעבר עליהן התאריך

		COUNT_BEFORE	
▶	1		500

[18:57:44] 166 rows deleted

		COUNT_AFTER	
▶	1		334

```
SAVEPOINT sav1;

SELECT COUNT(*) as count_before FROM DOCTOR;

DELETE FROM DOCTOR
WHERE DOCTORID IN (
    SELECT DISTINCT DOCTORID
    FROM MEDICATION |
    INNER JOIN MEDICATION_TREATMENT USING (MEDICATIONID)
    INNER JOIN TREATMENT USING (TREATMENTID)
    INNER JOIN DOCTOR USING (DOCTORID)
    INNER JOIN PATIENT USING (PATIENTID)
    WHERE EXPIRATIONDATE < TREATMENTDATE
);

SELECT COUNT(*) as count_after FROM DOCTOR;

ROLLBACK TO sav1;
```

Update

הזמנת תרופות שחסר

		COUNT_BEFORE	
▶	1		19

[18:47:40] 19 rows updated

		COUNT_AFTER	
▶	1		0

```
SAVEPOINT sav3;

SELECT COUNT(*) as count_before FROM MEDICATION
WHERE QUANTITYINSTOCK = 10;

UPDATE MEDICATION
SET QUANTITYINSTOCK = 50,
    EXPIRATIONDATE = ADD_MONTHS(CURRENT_DATE, 60)
WHERE QUANTITYINSTOCK = 10;

SELECT COUNT(*) as count_after FROM MEDICATION
WHERE QUANTITYINSTOCK = 10;

ROLLBACK TO sav3;
```

העברת חולה לחדר פרטי ללא עוד חולים

```
SAVEPOINT sav4;

SELECT ROOMID as room_before FROM PATIENT
WHERE PATIENTID = 56;

UPDATE Patient
SET RoomID = (
    SELECT RoomID
    FROM Room
    WHERE Type = 'Private'
    AND (
        SELECT COUNT(*)
        FROM Patient
        WHERE Patient.RoomID = Room.RoomID
    ) < 1
    AND ROWNUM = 1 -- Select the first available room that meets the criteria
)
WHERE PATIENTID = 56;

SELECT ROOMID as room_after FROM PATIENT
WHERE PATIENTID = 56;

ROLLBACK TO sav4;
```

		ROOM_BEFORE	
▶	1		207

1 row updated

		ROOM_AFTER	
▶	1		3

שאלות עם פרמטרים

עם list – מציאת התרופות שיש במלאי כמות מסוימת לפי בחירה מרשימה

```
SELECT MedicationID, Name, Description, QuantityInStock
FROM Medication
WHERE QuantityInStock = '<name="Quantity In Stock"
                        list="10, 20, 30, 40">';
```

	MEDICATIONID	NAME	DESCRIPTION	QUANTITYINSTOCK
1	29	Octinoxate	Fluoroscopy of Right Pulmonary Artery using H Osm Contrast	20
2	71	Baclofen	Excision of Nasal Septum, Perc Endo Approach, Diagn	20
3	88	Lidocaine Hydrochloride	Resection of Left Superior Parathyroid Gland, Open Approach	20
4	117	Lidocaine Hydrochloride	Drain of L Trunk Muscle with Drain Dev, Perc Endo Approach	20
5	118	Cocklebur	Supplement Right 1st Toe with Synth Sub, Perc Endo Approach	20

Variables

Name	Value
Quantity In Stock	20
	10
	20
	30
	40

OK Cancel Clear

עם hint – כל המטופלים במחלקה מסוימת

```
SELECT p.PatientID, p.Name, p.Phone, r.Type AS RoomType
FROM Patient p
JOIN Room r ON p.RoomID = r.RoomID
JOIN Department d ON r.DepartmentID = d.DepartmentID
WHERE d.Name = '<name="Department Name"
             hint="Only patients from this department will be listed">';
```

	PATIENTID	NAME	PHONE	ROOMTYPE
1	22	Kelsy Tebbutt	728-991-8826	ICU
2	26	Aldis Gallety	372-350-9884	ICU
3	51	Lissa Madeley	596-997-5462	Maternity
4	56	Jim Elecum	528-436-2648	Maternity
5	72	Gerik Kenneford	855-449-8208	Psychiatric

Variables

Name	Value
Department Name	Laboratory

OK Cancel Clear

עם name – כל המטופלים של רופא מסוים

```
SELECT t.TreatmentID, t.Description, p.Name AS PatientName, t.TreatmentDate
FROM Treatment t
LEFT JOIN Doctor d ON t.DoctorID = d.DoctorID
LEFT JOIN Patient p ON t.PatientID = p.PatientID
WHERE d.Name = '&<name="Doctor Name">';
```

	TREATMENTID	DESCRIPTION	PATIENTNAME	TREATMENTDATE
1	124	Cardiorespirat probl NEC	Cindelyn Rackam	23-Oct-05
2	894	Quadrplg c1-c4, complete	Kassey Burnsyde	04-Mar-01

Name	Value
Doctor Name	Drucie Rothchild

OK Cancel Clear

עם date – כל הטיפולים מיום שנבחר

```
SELECT t.TreatmentID, t.Description, d.Name AS DoctorName, p.Name AS PatientName, t.TreatmentDate
FROM Treatment t
JOIN Doctor d ON t.DoctorID = d.DoctorID
JOIN Patient p ON t.PatientID = p.PatientID
WHERE t.TreatmentDate > TO_DATE('&<name="Date"
                                type="date">', 'YYYY-MM-DD');
```

	TREATMENTID	DESCRIPTION	DOCTORNAME	PATIENTNAME	TREATMENTDATE
1	1	Alcoh dep NEC/NOS-unspec	Grier McCrae	Tabatha Blasio	21-Apr-09
2	2	Hemarthrosis-l/leg	Doy Patters	Wally Briston	17-Dec-16
3	3	Inf mcr rst qn flr nt ml	Gabriello Trewett	Urbanus Dongate	06-Oct-02
4	4	CI skl fx NEC-proln coma	Georgine Tumasian	Bridget Rannie	03-Feb-22
5	5	Spotting-delivered	Silvie Capron	Mariquilla Jemison	11-May-22

Name	Value
Date	1996-09-05

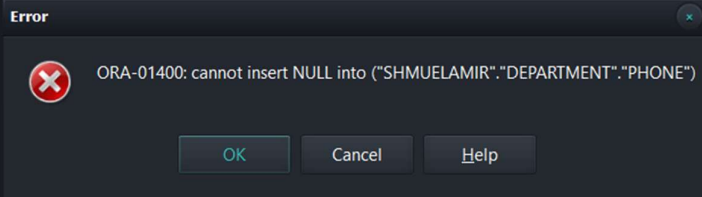
OK Cancel Clear

אילוצים

מספר הטלפון של המחלקה לא יוכל להיות ריק

```
ALTER TABLE Department
MODIFY Phone VARCHAR2(15) NOT NULL;
```

```
INSERT INTO Department (DepartmentID, Name, Location) VALUES (3, 'Oncology', 'Building C');
```



ערך ברירת מחדל לכמות התרופה יהיה 0


```
ALTER TABLE Medication
MODIFY QuantityInStock NUMBER DEFAULT 0;
```


```
INSERT INTO Medication (MedicationID, Name, Description, ExpirationDate)
VALUES (1001, 'Aspirin', 'Pain reliever', ADD_MONTHS(SYSDATE, 12));
```


```
SELECT * FROM MEDICATION
WHERE MEDICATIONID = 1001
```


Insert medication


Select medication

















































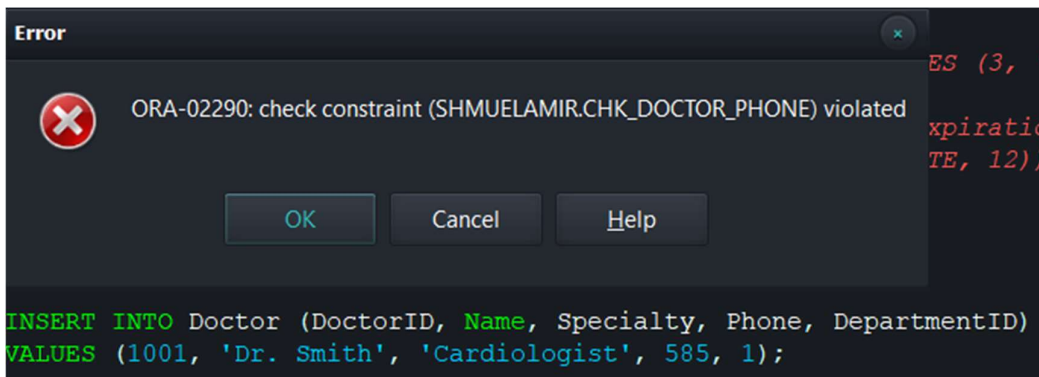




	MEDICATIONID	NAME	DESCRIPTION	EXPIRATIONDATE	QUANTITYINSTOCK
▶ 1	1001	Aspirin	Pain reliever	17-Jun-25 18:37:23	0

בדיקת מספר טלפון של רופא

```
ALTER TABLE Doctor
ADD CONSTRAINT chk_doctor_phone CHECK (REGEXP_LIKE(Phone, '^([0-9]{3})-([0-9]{3})-([0-9]{4})$'));
```



```
INSERT INTO Doctor (DoctorID, Name, Specialty, Phone, DepartmentID)
VALUES (1001, 'Dr. Smith', 'Cardiologist', 585, 1);
```