בס"ד

מיני פרויקט בבסיסי נתונים שלב ב

תיאור מילולי של השאילתא:

-- 1. Select all volunteers who joined in a specific year, along with their roles and gear information.

צילום של הרצה:

Program Window | SELECT V.name, V.join_date ... | select * from all_constrai ...

SQL | Output | Statistics

```
SELECT V.name, V.join_date, P.role_name, G.armor_type, G.gun_type
FROM Volunteers V
JOIN Position P ON V.role_ID = P.role_ID
JOIN Gear G ON V.gear_ID = G.gear_ID
WHERE EXTRACT(YEAR FROM V.join_date) = 2024
ORDER BY V.name;
```

צילום של תוצאה:

	NAME	JOIN_DATE	ROLE_NAME	ARMOR_TYPE	GUN_TYPE
1	Alice Johnson	10/03/2024	Engineer	3	3
2	Jane Smith	15/02/2024	Medic	2	2
3	John Doe	01/01/2024	Leader	1	1

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תיאור מילולי של השאילתא:

-- 2. Select all volunteers signed up for shifts at a specific base, including shift start and end times.

צילום של הרצה:

Program Window | SELECT V.name, S.start_dat ... | select * from all_constrai ...

SQL | Output | Statistics

```
SELECT V.name, S.start_date_time, S.end_date_time, B.location
FROM Volunteers V
JOIN signed_up SU ON V.volunteer_ID = SU.Volunteer_ID
JOIN Shifts S ON SU.Shift_ID = S.shift_ID
JOIN Base B ON S.base_ID = B.base_ID
WHERE B.base_ID = 1
ORDER BY S.start_date_time;
```

צילום של תוצאה:

	NAME	START_DATE_TIME	END_DATE_TIME	LOCATION
1	John Doe	01/06/2024 08:00:00	01/06/2024 16:00:00	Alpha Base
2	Alice Johnson	02/06/2024	02/06/2024 08:00:00	Alpha Base

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תיאור מילולי של השאילתא:

-- 3. Count the number of volunteers per role, grouped by role name.

צילום של הרצה:

Program Window | SELECT P.role_name, COUNT(... | select * from all_constrai ...

SQL | Output | Statistics

```
SELECT P.role_name, COUNT(V.volunteer_ID) AS volunteer_count
FROM Position P
LEFT JOIN Volunteers V ON P.role_ID = V.role_ID
GROUP BY P.role_name
ORDER BY volunteer_count DESC;
```

צילום של תוצאה:

	ROLE_NAME	VOLUNTEER_COUNT
1	Leader	1
2	Engineer	1
3	Medic	1

תיאור מילולי של השאילתא:

-- 4. Find the total number of shifts each volunteer has signed up for, along with their name.

צילום של הרצה:

Program Window | SELECT V.name, COUNT(SU.Sh ... | select * from all_constrai ...

SQL | Output | Statistics

```
SELECT V.name, COUNT(SU.Shift_ID) AS total_shifts
FROM Volunteers V
JOIN signed_up SU ON V.volunteer_ID = SU.Volunteer_ID
GROUP BY V.name
ORDER BY total_shifts DESC;
```

צילום של תוצאה:

	NAME	TOTAL_SHIFTS
1	John Doe	1
2	Alice Johnson	1
3	Jane Smith	1

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תיאור מילולי של השאילתא:

-- 1. Delete all volunteers who have not signed up for any shifts.

לצורכי בדיקה נכניס מתנדב ללא משמרות:

```
-- Insert data into Personal_info table for the new volunteer
INSERT INTO Personal_info (address, phone_number, email) VALUES
('7890 Spruce Street', '555-7890', 'frank.green@example.com');

-- Insert data into Volunteers table for the new volunteer
INSERT INTO Volunteers (volunteer_ID, join_date, name, role_ID, gear_ID,
phone_number) VALUES
(8, TO_DATE('2024-05-20', 'YYYY-MM-DD'), 'Frank Green', 1, 2, '555-7890');
```

```
select * from volunteers;
```

	VOLUNTEER_ID	JOIN_DATE	NAME	ROLE_ID	GEAR_ID	PHONE_NUMBER
1	1	01/01/2024	John Doe	1	1	555-1234
2	2	15/02/2024	Jane Smith	2	2	555-5678
3	3	10/03/2024	Alice Johnson	3	3	555-9101
4	8	20/05/2024	Frank Green	1	2	555-7890

לאחר ההוספה.

צילום של הרצה:

Program Window | DELETE FROM Volunteers WHE ... | select * from all_constrai ...

SQL | Output | Statistics

```
DELETE FROM Volunteers
WHERE volunteer_ID NOT IN (SELECT Volunteer_ID FROM signed_up);
```

צילום של תוצאה: (אכן נמחק)

Program Window | select * FROM Volunteers | select * from all_constrai ...

SQL | Output | Statistics

```
select * FROM Volunteers
```

	VOLUNTEER_ID	JOIN_DATE	NAME	ROLE_ID	GEAR_ID	PHONE_NUMBER
1	1	01/01/2024	John Doe	1	1	555-1234
2	2	15/02/2024	Jane Smith	2	2	555-5678
3	3	10/03/2024	Alice Johnson	3	3	555-9101

בס"ד

תיאור מילולי של השאילתא:

-- 2. Delete all shifts that have no volunteers signed up.

```
-- Insert a new shift with no volunteers signed up
INSERT INTO Shifts (shift_ID, start_date_time, end_date_time, base_ID)
VALUES
(8, TO_DATE('2024-06-04 08:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_DATE('2024-06-04 16:00:00', 'YYYY-MM-DD HH24:MI:SS'), 1);
```

הוספה של משמרת ריקה למטרות בדיקה.

SQL Output Statistics

```
select * from shifts;
```

	SHIFT_ID	START_DATE_TIME	END_DATE_TIME	BASE_ID
1	1	01/06/2024 08:00:00	01/06/2024 16:00:00	1
2	2	01/06/2024 16:00:00	02/06/2024	2
3	3	02/06/2024	02/06/2024 08:00:00	1
4	8	04/06/2024 08:00:00	04/06/2024 16:00:00	1

צילום של הרצה:

Program Window | select * from shifts | select * from all_constrai ...

SQL Output Statistics

```
DELETE FROM Shifts
WHERE shift_ID NOT IN (SELECT Shift_ID FROM signed_up);
```

צילום של תוצאה:

	SHIFT_ID	START_DATE_TIME	END_DATE_TIME	BASE_ID
1	1	01/06/2024 08:00:00	01/06/2024 16:00:00	1
2	2	01/06/2024 16:00:00	02/06/2024	2
3	3	02/06/2024	02/06/2024 08:00:00	1

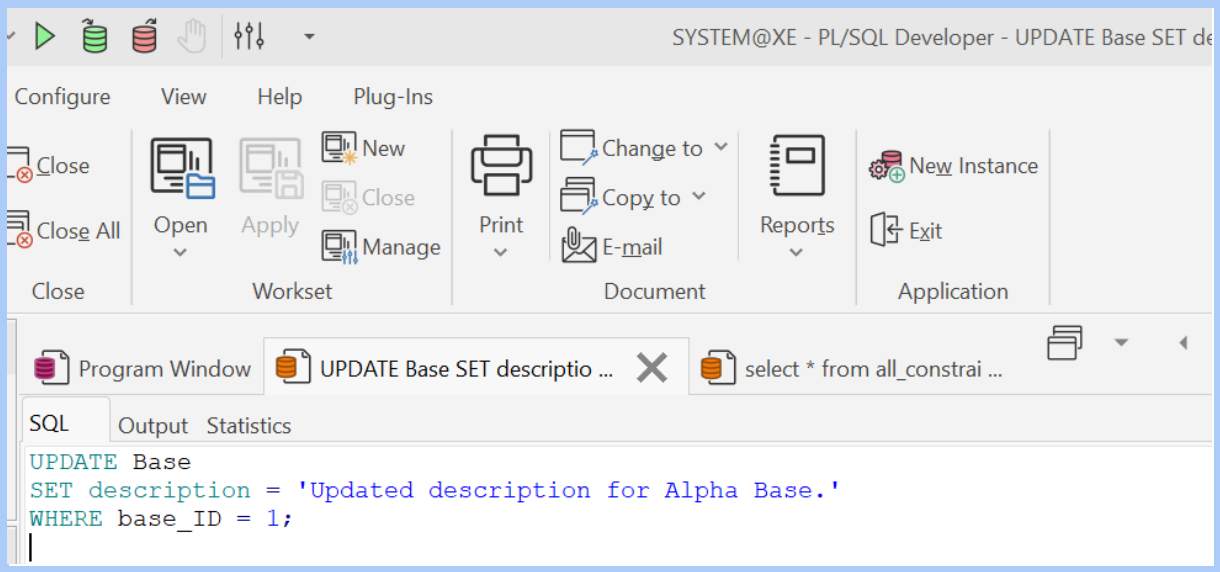
לאחר המחיקה.

בס"ד

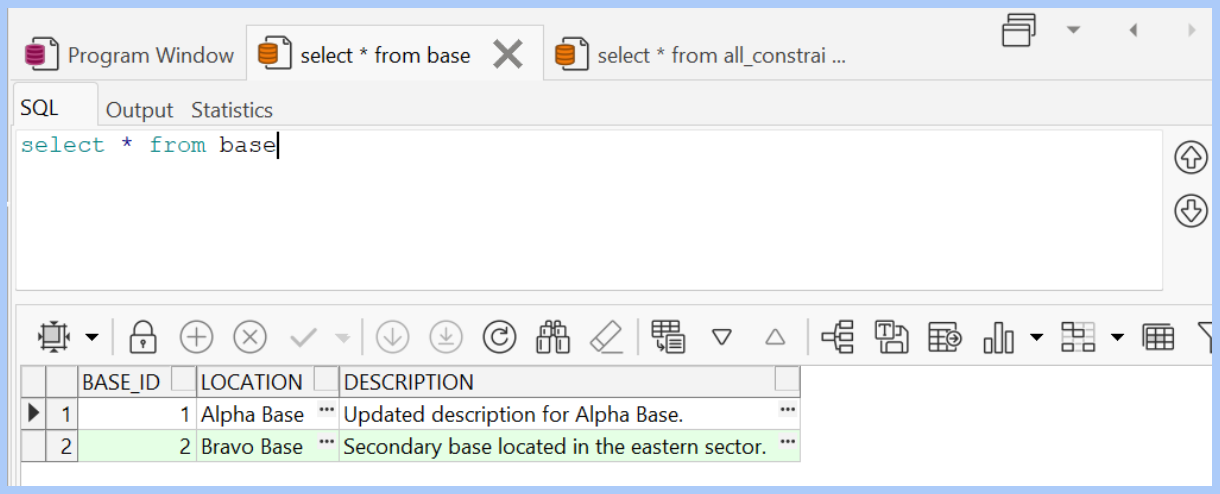
תיאור מילולי של השאילתא:

-- 1. Update the location description for a specific base.

צילום של הרצה:



צילום של תוצאה:

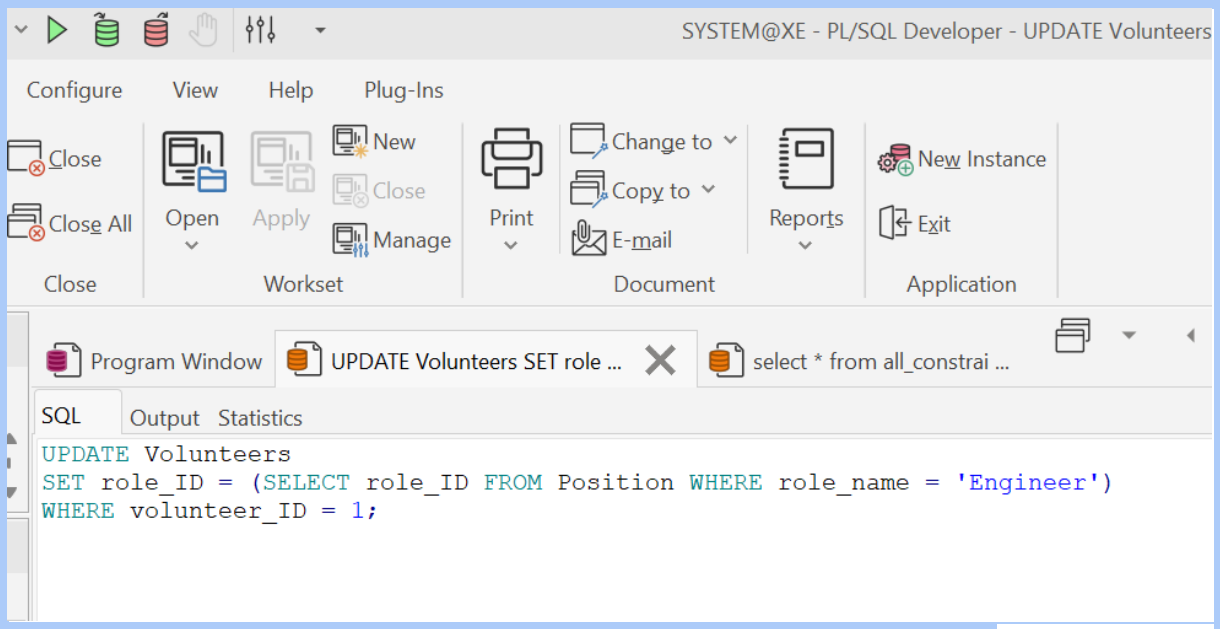


בס"ד

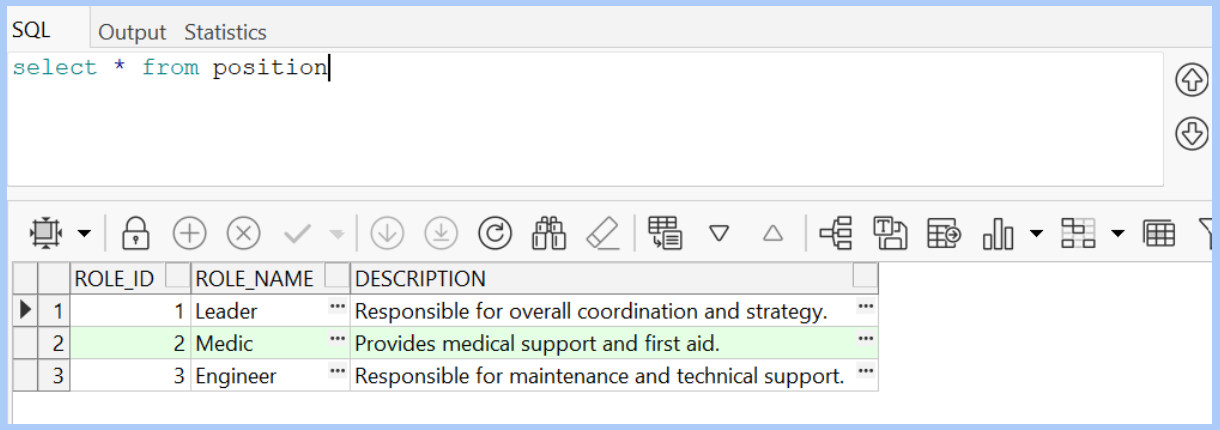
תיאור מילולי של השאילתא:

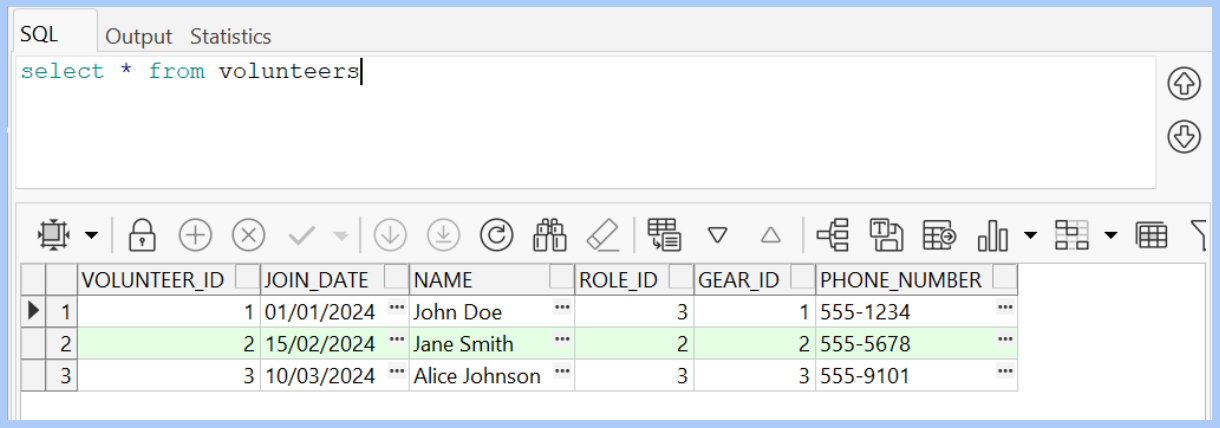
-- 2. Update the role of a specific volunteer.

צילום של הרצה:



צילום של תוצאה:





בס"ד

תיאור מילולי של השאילתא:

-- Adding a CHECK constraint to ensure gear_type in Gear table is within a certain range

צילום של הרצה:

Program Window | ALTER TABLE Gear ADD CONST ... | select * from all_constrai ...

SQL | Output | Statistics

```
ALTER TABLE Gear
ADD CONSTRAINT chk_gear_type CHECK (armor_type BETWEEN 1 AND 5);
```

צילום של תוצאה:

SQL | Output | Statistics

```
select * from all_constraints
WHERE TABLE_NAME = 'GEAR'
```

	OWNER	CONSTRAINT_NAME	CONSTRAINT_TYPE	TABLE_NAME	SEARCH_CONDITION	SEARCH_CONDITIO
1	SYSTEM	SYS_C008599	C	GEAR	<Long>	"ARMOR_TYPE" IS
2	SYSTEM	SYS_C008600	C	GEAR	<Long>	"GUN_TYPE" IS NO
3	SYSTEM	SYS_C008601	C	GEAR	<Long>	"GEAR_ID" IS NOT
4	SYSTEM	CHK_GEAR_TYPE	C	GEAR	<Long>	armor_type BETWE

בס"ד

תיאור מילולי של השאילתא:

-- Adding a DEFAULT constraint to set a default join date in Volunteers table

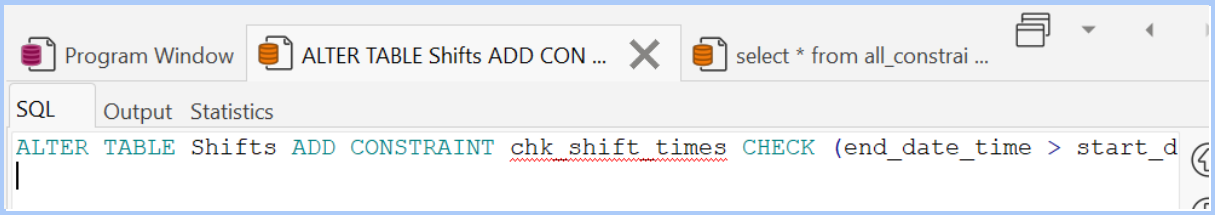
צילום של הרצה:

תיאור מילולי של השאילתא:

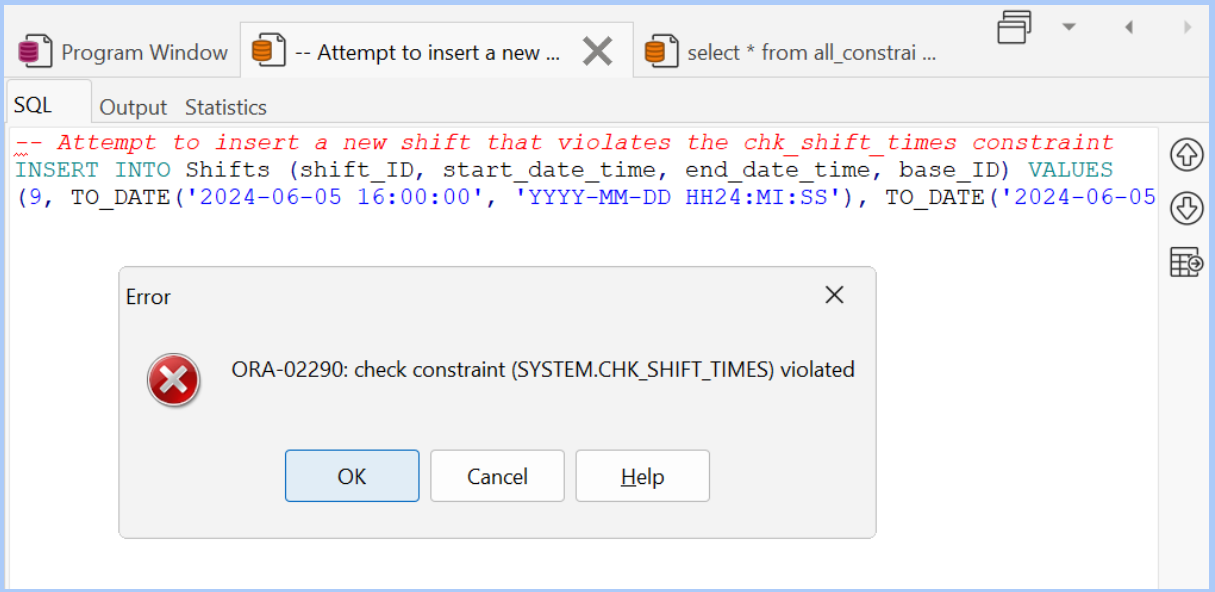
-- Adding a CHECK constraint to the Shifts table

```
-- Adding a CHECK constraint to the Shifts table
ALTER TABLE Shifts ADD CONSTRAINT chk_shift_times CHECK (end_date_time >
start_date_time);
```

צילום של הרצה:



צילום של תוצאה:



על מנת לראות באופן ישיר אילוצים:

```
select * from all_constraints
WHERE TABLE_NAME = 'GEAR'
```

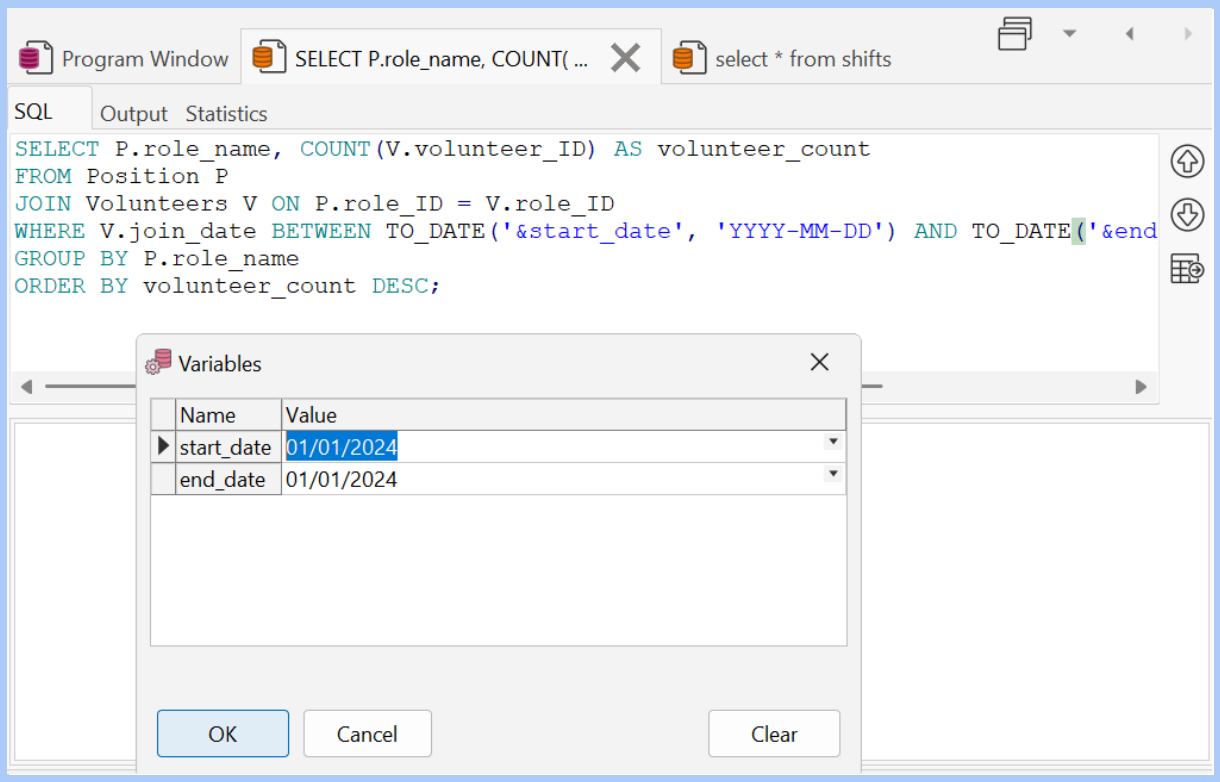
בס"ד

תיאור מילולי של השאילתא:

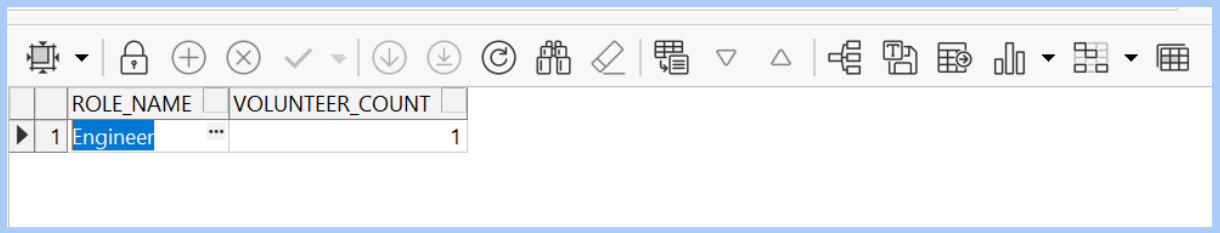
-- 3. Count the number of volunteers for each role within a specific date range.

צילום של הרצה:

הפורמט של התאריך לא כמו בתמונה*



צילום של תוצאה:



	ROLE_NAME	VOLUNTEER_COUNT
1	Engineer	1

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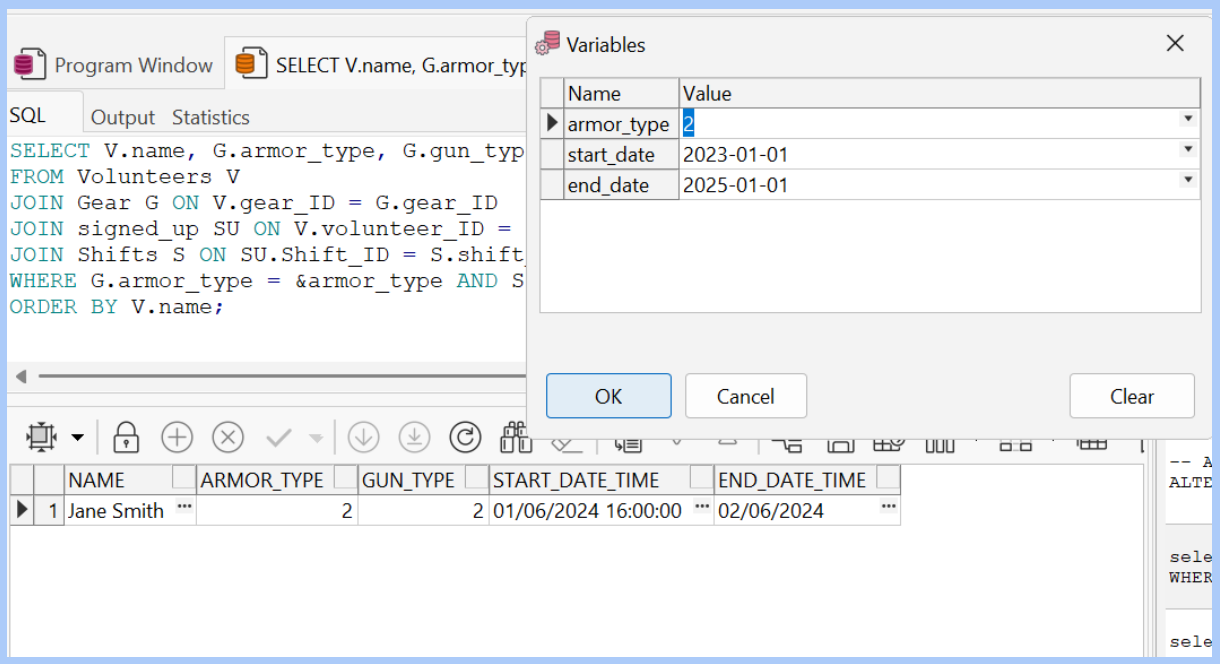
תיאור מילולי של השאילתא:

-- 4. Find volunteers with a specific gear type signed up for shifts within a date range.

צילום של הרצה ותוצאה:



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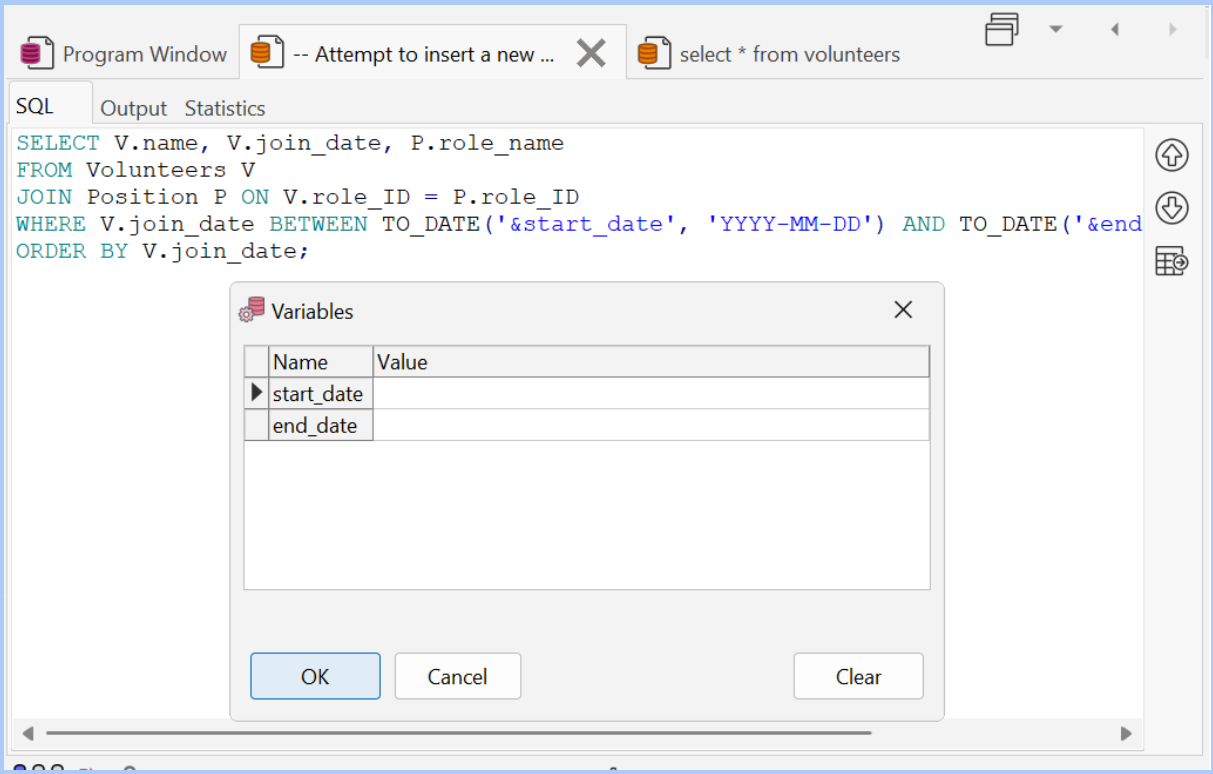
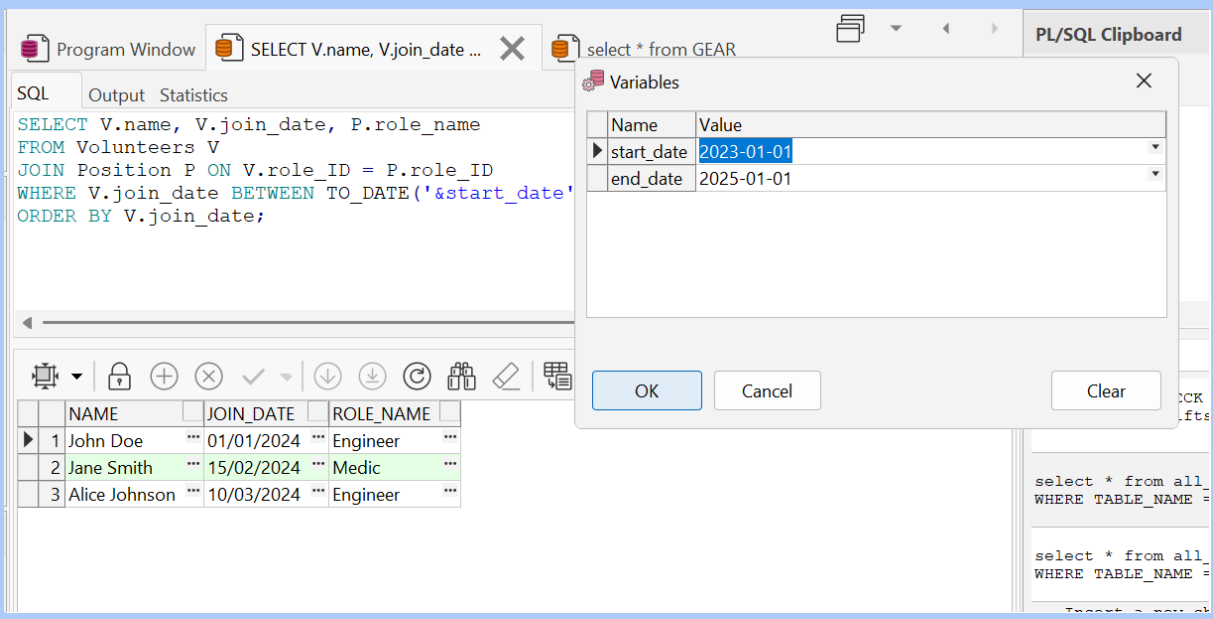
תיאור מילולי של השאילתא:

-- 1. Select all volunteers who joined within a date range, along with their role names.

צילום של הרצה:



צילום של תוצאה:

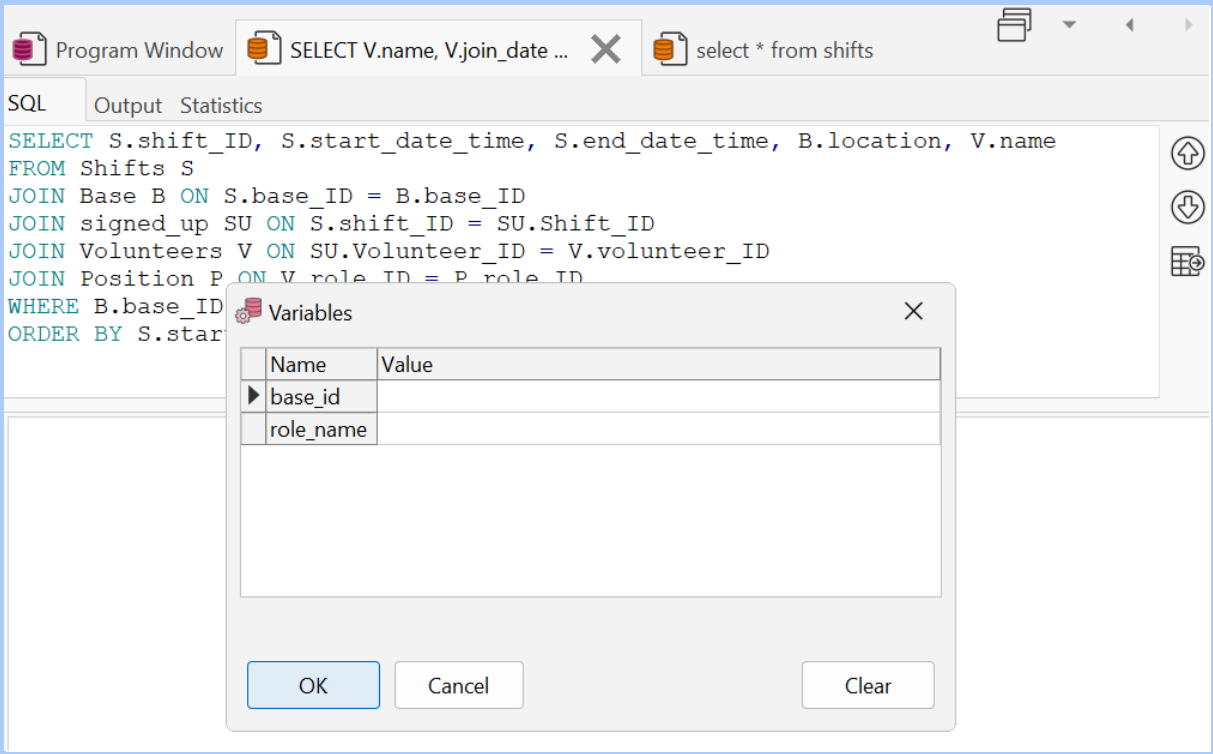
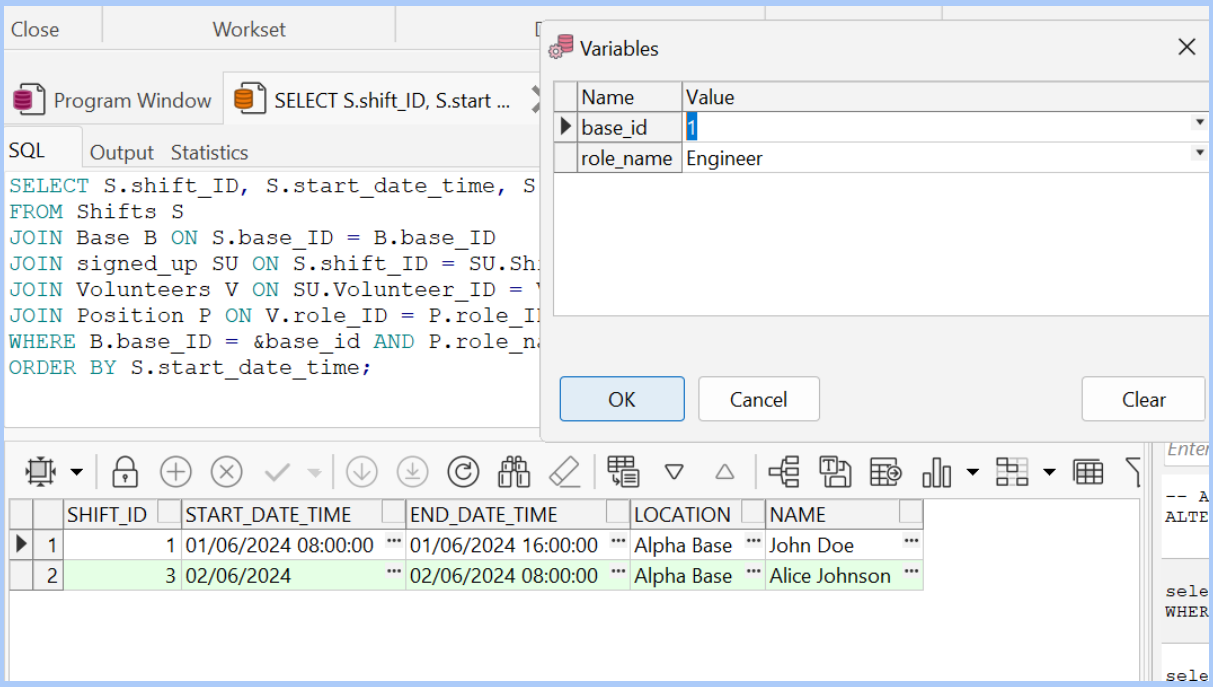


בס"ד

תיאור מילולי של השאילתא:

-- 2. Select all shifts at a specific base with a specific role type signed up.

צילום של הרצה:



צילום של תוצאה: