דוח הגשת הפרויקט שלב 3

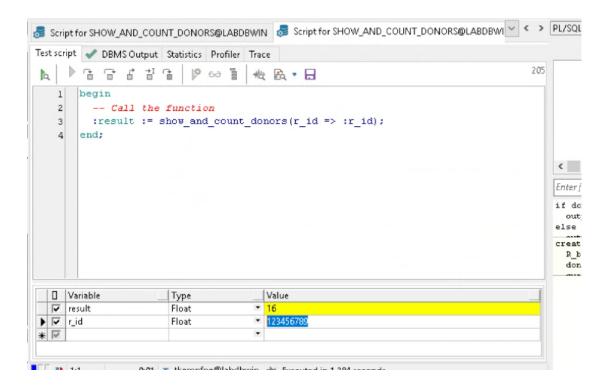
מגישות שירה הופמן וטל קמפנר.

תוכנית ראשונה

פונקציה- יצרנו פונקציה קיבלה מ.ז של אדם ששמור במאגר כנתרם והדפיסה את כל האנשים שיש להם תרומות דם במאגר דם מסוג הדם שלו. הפונקציה מחזירה את מספר האנשים שנמצאו.

```
👼 Create_new_recipient.prc 👼 2222.tst 👼 show_and_count_donors.fnc 🦸 Edit TKEMPFNE.SHOW_AND_COUNT_DONORS@LABDBWIN 🗶
show_and_count_donors
x Declaration Comment
        1 Excreate or replace function show_and_count_donors(R_ID in INTEGER) return integer is
              R_blood_type varchar2(20);
        3 日
              cursor donor cur is
                 select p.personid, p.city, p.street, p.house_number, p.first_name, p.middle_name, p.last_name, p.birth_date, p.mobile_number, p.phone_n
                 from person p
join donor d on p.personid = d.donorid
                 where p.blood_type = R_blood_type
and exists (select 1 from blood_unit b where b.donorid = d.donorid)
       10
              donor_count integer := 0; -- Initialize counter for donor count
       12
    13 begin
             -- Fetch the blood type for the given R_ID select blood_type into R_blood_type
       14
       15 🛱
       16
              from person
              where personid = R_ID;
       17
       19
                 - Iterate through donors and print details
       20 🖯 for donor_row in donor_cur loop
                dbms_output.put_line(donor_row.first_name || ' ' || donor_row.last_name || ', ' || donor_row.city || ', ' || donor_row.street);
donor_count := donor_count + 1; -- Increment donor_count
       21
       23
              end loop;
       25
               return donor count; -- Return the count of donors found
```

להלן הרצת הפונקציה:



והפלט:

```
Test script Dom's Output Statistics Profiler Trace
     Clear
              Buffer size 10000

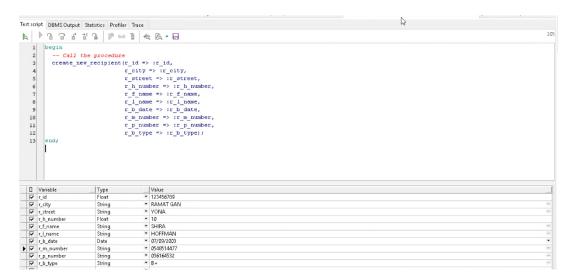
☑ Enabled

ה
    Bunnie Yarnold, Szeged, Kings
    Kinsley Blatcher, Sambopinggir, Kenwood
    Worden Skeats, Dengmu, Coleman
    Jerad Bischof, Uruzg?n, Talisman
    Clarette Tomasino, Blizne, Columbus
    Rolando Nayer, ?, "al?, @? «1, Westridge
    Cynthy Payler, Sibubuhan, Brown
    Layton Worsall, Chilliwack, Twin Pines
    Errick Cumber, Sabanalarga, Eastlawn
    Thibaud Burde, Alenquer, Laurel
    Powell Christon, Sukarame, Delaware
    Jerrilyn Sterte, A?«a, Delaware
    Philippa Tremmil, Iogach, Shasta
    Tristam Domb, R?bigh, Michigan
    Christoper Spilling, Hostomice, Fairview
    Lauren Cough, Len?«nsk?«y, Shoshone
```

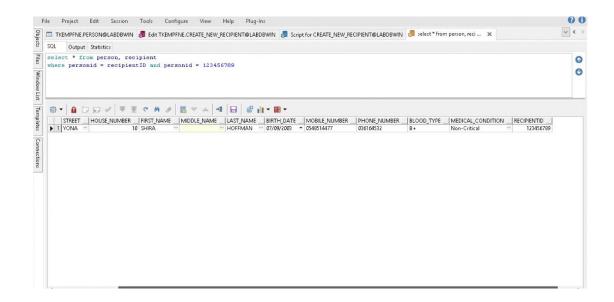
פרוצדורה מקבלת מ.ז, עיר, רחוב, מספר בית, שם, תאריך לידה ומספר טלפון ומוסיפה למערכת אדם חדש הזקוק לתרומת דם. אם הגיל של הנתרם גדול מ60 המצב הרפואי לו ישמר כקריטי.

```
1 create or replace procedure Create_new_recipient(R_ID in INTEGER, R_CITY in VARCHAR2, R_STREET in VARCHAR2.
   R H NUMBER in INTEGER , R F NAME in VARCHAR2, R L NAME in VARCHAR2, R B DATE in DATE, R M NUMBER in VARCHAR2,
     R_P_NUMBER in VARCHAR2 , R_B_TYPE in VARCHAR2) is
 4 Bage INTEGER;
    R_M_CONDITION VARCHAR2 (20);
     age := trunc(trunc(months_between(sysdate, R_B_DATE))/12);
8 D if age > 60 then
9 R_M_CONDITION := 'Critical';
       R_M_CONDITION := 'Non-Critical' ;
11
   END IF;
13 D INSERT INTO person (
              PERSONID,
15
              CITY,
              HOUSE NUMBER,
17
18
              FIRST NAME,
19
20
              LAST NAME,
              BIRTH DATE,
21
              MOBILE NUMBER,
              PHONE NUMBER,
22
23
              BLOOD_TYPE
         ) VALUES (
24
              R_ID,
26
              R CITY,
             R STREET,
27
28
              R_H_NUMBER,
             R_F_NAME,
R_L_NAME,
R_B_DATE,
29
30
31
32
33
34
35
36
37
38
             R_M_NUMBER,
R_P_NUMBER,
R_B_TYPE
     INSERT INTO recipient (
             RECIPIENTID,
              MEDICAL_CONDITION
              ) VALUES (
40
41
              R ID,
             R_M_CONDITION
42
43
                                                           Ι
         COMMIT;
44
     end Create_new_recipient;
```

:הרצה



ניתן לראות שנכנס המידע לבסיס הנתונים (ועם מצב רפואי לא קריטי):



תוכנית<mark>-</mark>

קולטת מהמשתמש 1 למציאת תורמים מתאימים לאדם שנמצא כבר במאגר ו2 להכנסת אדם חדש הזקוק לתרומה למערכת. התוכנית קולטת את המידע הדרוש לכל פעולה ופועלת בהתאם לתפריט.

```
SQL Output Statistics
DECLARE

USE_input VARCHAR2 (10);
result VARCHAR2 (100);
r_id INTEGER;
r_city VARCHAR2 (50);
r_street VARCHAR2 (50);
r_street VARCHAR2 (50);
r_h_number INTEGER;
r_f_name VARCHAR2 (50);
r_l_name VARCHAR2 (50);
r_b_date DATE;
r_m_number VARCHAR2 (10);
r_p_number VARCHAR2 (3);
r_b_type VARCHAR2 (3);
r_b_type VARCHAR2 (3);
r_b_type VARCHAR2 (3);
        -- Prompt user to enter a number 1 or 2 dbms_output.put_line('Enter 1 in order to find matching donors or 2 in order to create a new recipient:');
       -- Read user input user_input := '&10R2'; -- Input will be prompted
      - Determine which function to call based on user input

IF user_input = '1' THEN
dbms_output.put_line('Enter your ID:');
r_id := TO_NUMBER('&ID');

IF r_id IS_NUMBER('&ID');

RAISE_APPLICATION_ERROR(-20001, 'ID parameter is missing.');
END_IF;
result.ss_application_error.
                                                                                                                                                                                                                                                                                                                                English (United States)
US keyboard
            result := show_and_count_donors(r_id => r_id);
      ELSIF user_input = '2' THEN
            dbms_output.put_line('Please enter recipient details:');
                                                                                                                                                                                                                                                                                                                                                                                  1
          dbms_output.put_line('Recipient ID:');
r_id := TO_NUMBER('sID'); -- Example input for recipient ID
If r_id IS NULL THEN
    RAISE_APPLICATION_ERROR(-20002, 'Recipient ID parameter is missing.');
END IF;
           dbms_output.put_line('City:');
r_city:='ccity'; -- Example input for city
If r_city IS NULL OR r_city = '' THEN
   RAISE_APPLICATION_ERROR(-20003, 'City parameter is missing.');
            END IF:
           dbms_output.put_line('Street:');
r_street:"'&street': -- Example input for street
If r_street IS NULL OF street = '' THEN
RAISE_APPLICATION_ERROR(-20004, 'Street parameter is missing.');
            END IF;
            dbms_output.put_line('House Number:');
           Change output line('House Number:');

r.h.number := TO NUMEER('Abouse_num'); -- Example input for house number IF r.h.number IS NULL THEN

RAISE_APPLICATION_ERROR(-20005, 'House Number parameter is missing.');

END IF;
```

```
dbms_output.put_line('First Name:');
   r_f name := 'ffirst name'; -- Example input for first name

IF r_f_name IS NULL OR r_f_name = '' THEN

RAISE_APPLICATION_ERROR(-20006, 'First Name parameter is missing.');
    dbms_output.put_line('Last Name:');
   r_1 name := '&last_name'; -- Example input for last name

IF r_1_name IS NULL OR r_1_name = '' THEN

RAISE_APPLICATION_ERROR(-20007, 'Last Name parameter is missing.');
   END IF:
   dbms_output.put_line('Birth Date (DD/MM/YYYY):');
r_b_date := TO_DATE('sbirth_date', 'DD/MM/YYYY'); -- Example input for birth date
IF r_b_date IS NULL THEN
       RAISE_APPLICATION_ERROR(-20008, 'Birth Date parameter is missing or invalid format.');
    dbms_output.put_line('Mobile Number:');
   r_m_number := 'mmobile_number'; -- Example input for mobile number

IF r_m_number IS NULL OR r_m_number = '' THEN

RAISE_APPLICATION_ERROR(-20009, 'Mobile Number parameter is missing.');
   END IF;
    dbms_output.put_line('Phone Number:');
   r_p_number := 'sphone_number'; -- Example input for phone number

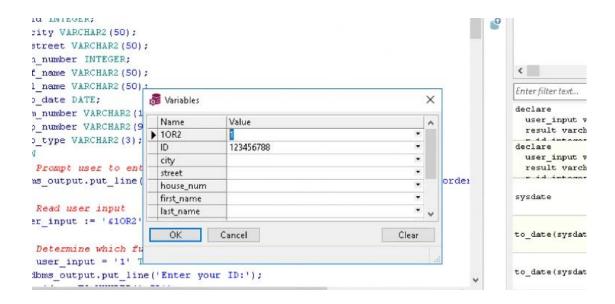
IF r_p_number IS NULL OR r_p_number = '' THEN

RAISE_APPLICATION_ERROR(-20010, 'Phone Number parameter is missing.');
    dbms_output.put_line('Blood Type:');
   r b type := 'dblood type';

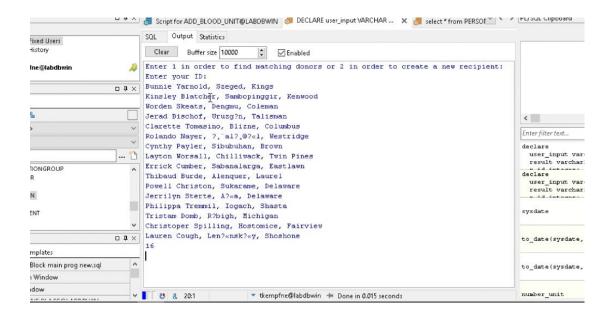
IF r_b_type IS NULL OR r_b_type = '' THEN

RAISE_APPLICATION_ERROR(-20011, 'Blood Type parameter is missing.');
     -- Call the function to create a new recipient
   create_new_recipient(
r_id => r_id,
r_city => r_city,
r_street => r_street,
r_h_number => r_h_number,
      r h number => r f number,
r f name => r f name,
r l name => r l name,
r b date => r b date,
r m number => r m number,
r b type => r b type
   RAISE APPLICATION ERROR (-20012, 'Invalid input, Please enter 1 or 2.');
                -- Exit the block if input is invalid
-- Print the result
DBMS_OUTPUT.PUT_LINE(result);
EXCEPTION
   WHEN VALUE ERROR THEN
DBMS_OUTPUT_FUT_LINE('Invalid input format.');
   WHEN NO DATA FOUND THEN
  DBMS_OUTPUT_PUT_LINE('This person dose not exist.');
WHEN OTHERS THEN
      DBMS_OUTPUT_LINE('An error occurred: ' || SQLERRM);
END;
```

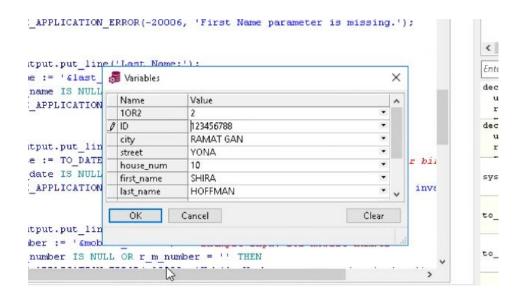
הרצת התוכנית על הקלט 1:



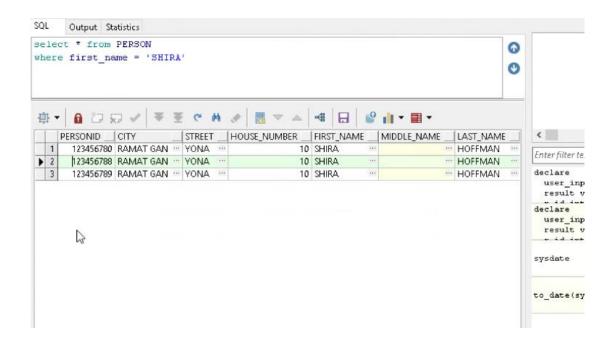
:פלט



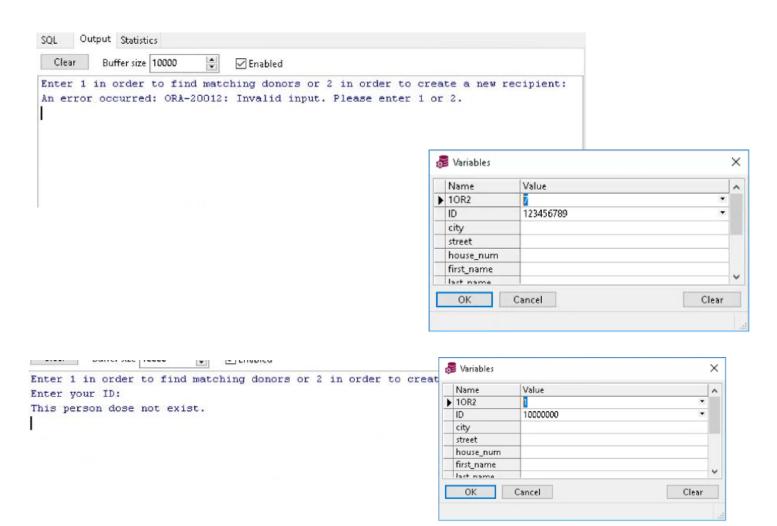
הרצת התוכנית על הקלט 2:



ניתן לראות נכנס לבסיס נתונים נתרם חדש:



התוכנית יודעת לטפל בחריגות כגון בחירת אופציה שאינה התפריט חיפוש תורם לאדם שאינו במערכת ועוד.

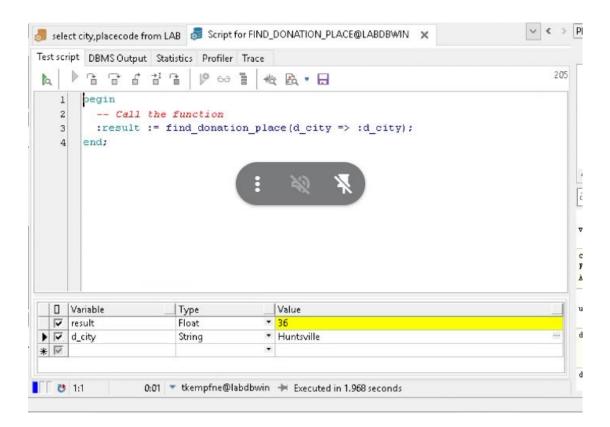


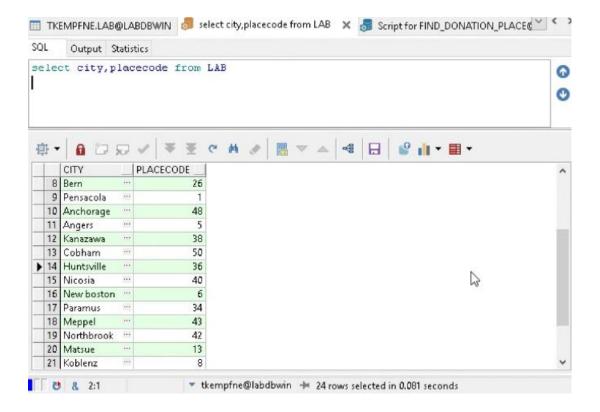
תוכנית שניה

<mark>פונקציה</mark>- מקבלת עיר ומחזירה את המעבדה הנמצאת בעיר. במקרה ויש מספר מעבדות מחזירה את המעבדה שנלקחו ממנה הכי קצת מנות.

```
1 Greate or replace function find donation place(d city in Varchar2) return integer is
        v_least_used_place integer;
BEGIN
           -- Query to find places in the given city and their corresponding counts in blood unit SELECT placecode
             INTO v_least_used_place FROM (
                SELECT p.placecode, COUNT(bu.placecode) AS unit_count
FROM lab p
LEFT JOIN blood_unit bu ON p.placecode = bu.placecode
   10
11
                 WHERE p.city = d_city
GROUP BY p.placecode
ORDER BY COUNT(bu.placecode) ASC
   12
13
   14
15
16
17
18
            WHERE ROWNUM = 1; -- Get the place with the least count
           RETURN v_least_used_place;
        EXCEPTION
WHEN NO DATA FOUND THEN
   19 日
          RETURN NULL: -- Handle case where no places are found in the city WHEN OTHERS THEN
             RAISE; -- Raise the exception for other errors
r tkempfne@labdbwin 🗯 Compiled successfully
```

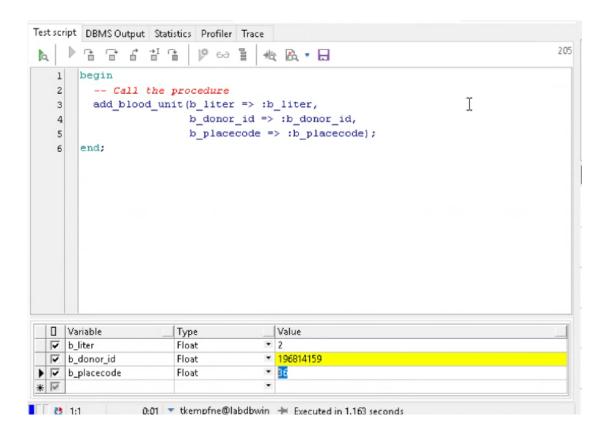
:הרצה



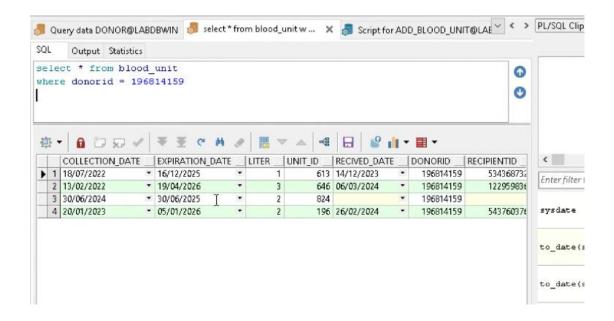


<mark>פרוצדורה</mark>- מקבלת מספר מעבדה ומוסיפה אליה תרומת דם חדשה. תאריך התרומה יקבע להיום ותאריך התפוגה לעוד שנה.

:הרצה



ניתן לראות שנוספה היום תרומה חדשה:



תוכנית-

קולטת מהמשתמש 1 למציאת מעבדה בעירו ו2 לתרומת מנת דם בעיר. נתוכנית קולטת את הפרמטרים הדרושים ומבצעת את הפעולות בהתאם לתפריט.

```
👼 Query data DONOR@LABDBWIN 👼 select*from blood_unitw... ಶ PROGRAM2.sql 🗴 👼 Query data LAB@LABDBWIN 👼 Query data DONOR@LABDBWIN 👼 select*from BLOOD_UNIT t...
    Output Statistics
  user input VARCHAR2 (10);
  result VARCHAR2 (100):
  b placecode INTEGER;
  b liter INTEGER;
 -- Prompt user to enter a number 1 or 2 dbms_output.put_line('Enter 1 in order to find closest donation place or 2 in order to add a new blood unit:');
  -- Read user input user_input := '610R2'; -- Input will be prompted
  -- Determine which function to call based on user input IF user input = '1' THEN
    dbms_output.put_line('Enter city:');
d_city := '&City'; -- Prompt for input
   IF d_city IS NULL OR d_city = '' THEN
RAISE_APPLICATION_ERROR(-20001, 'City parameter is missing.');
   -- Call the function to find closest donation place result := find donation place(d city => d city);
  ELSIF user input = '2' THEN
     dbms_output.put_line('Please enter blood unit details:');
     dbms output.put line('Blood Liter:');
    b_liter := TO_NUMBER('&blood_liter'); -- Prompt for input
     IF b liter IS NULL THEN
      RAISE_APPLICATION_ERROR(-20011, 'Liter parameter is missing.');
     END IF;
     dbms_output.put_line('Donor ID:');
     b donor id := TO NUMBER('&DonorID'); -- Prompt for input
     IF b_donor_id IS NULL THEN
      RAISE APPLICATION ERROR(-20002, 'Donor ID parameter is missing.');
     END IF;
     dbms_output.put_line('Place Code:');
    b_placecode := TO_NUMBER('&place_code'); -- Prompt for input
     IF b_placecode IS NULL THEN
      RAISE_APPLICATION_ERROR(-20010, 'Place code parameter is missing.');
     END IF:
      - Call the function to add a new blood unit
    add_blood_unit(
      b_liter => b_liter,
      b_donor_id => b_donor_id,
      b_placecode => b_placecode
    1:
   RAISE APPLICATION ERROR(-20012, 'Invalid input. Please enter 1 or 2.');
    RETURN; -- Exit the block if input is invalid
  END IF;
    - Print the result
  DBMS_OUTPUT.PUT_LINE(result);
EXCEPTION
  WHEN VALUE_ERROR THEN
    DBMS_OUTPUT.PUT_LINE('Invalid input format.');
  WHEN NO DATA FOUND THEN
    DBMS_OUTPUT.PUT_LINE('This person does not exist.');
```

הרצת התוכנית על הקלט 1:

```
Vindow List Templates Connections
            IF b_placecode IS NULL THEN
    RAISE_APPLICATION_ERROR(-20010, 'Place code parameter is missing.');
            END IF;
             -- Call the function to add a new blood unit
            add_blood_unit(
b_liter => b_liter,
b_donor_id => b_donor_id,
b_placecode => b_placecode
                                                                                                          👼 Variables
                                                                                                          Name
10R2
City
blood_liter
DonorID
place_code
                                                                                                                         Value
                                                                                                                           La Plata
            RAISE_APPLICATION_ERROR(-20012, 'Invalid input. Please ent
         RETURN; -- Exit the block if input is invalid
END IF;
                                                                                                          OK Cancel
                                                                                                                                                                       Clear
        -- Print the result
DBMS_OUTPUT.PUT_LINE(result);
         WHEN VALUE ERROR THEN
         DBHS_OUTPUT.PUT_LINE('Invalid input format.');

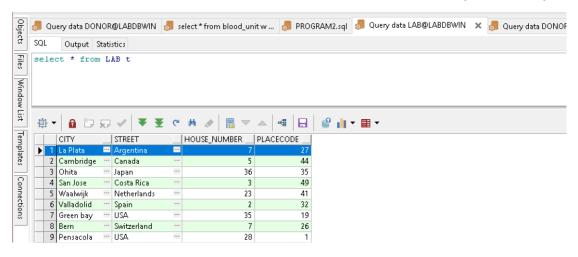
WHEN NO DATA FOUND THEN

DBHS_OUTPUT.PUT_LINE('This person does not exist.');
```

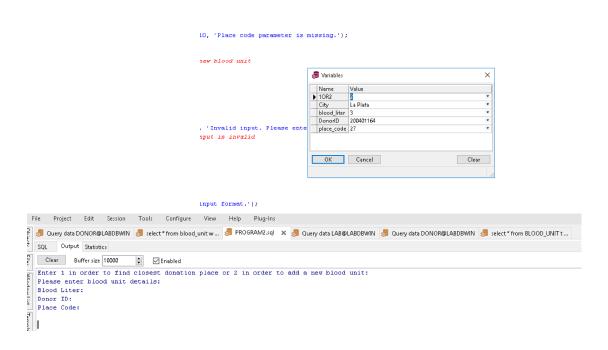
פלט:



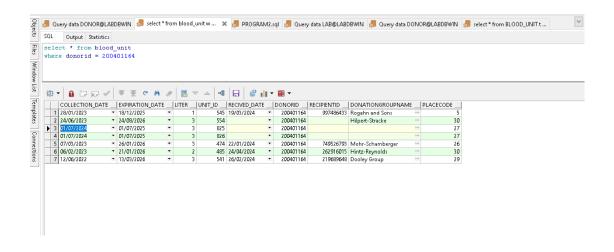
ניתן לראות שאכן יש בעיר את מעבדה 27:



הרצת התוכנית על הקלט 2:



ניתן לראות שהמנה נוספה לבסיס הנתונים והמעדה בה היא נלקחה היא המעבדה שנמצאת בעיר שהוזנה:



התוכנית יודעת לטפל בחריגות כגון בחירת אופיה שאינה בתפריט או אי הזנת פרמטר.

