

תרגיל 3 בסיסי נתונים

מגישות:

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תוכנית א:

תוכנית המקבלת תעודת זהות של ילד, מספר חיסון, תעודת זהות של אחות, תאריך, מספר חדר וקוראת לפונקציה המחשבת את גילו ולאחר מכן אם הילד קטן בגיל שבו נותנים את החיסון, קוראת לפרוצורה שמוסיפה את הפגישה לילד.

```
BEGIN
  DECLARE
    v_count NUMBER;
    v_child_age NUMBER;
    v_age_injection NUMBER;
    v_child_id NUMBER := &v_child_id;
    v_nurse_id NUMBER := &v_nurse_id;
    v_injection_id NUMBER := &v_injection_id;
    v_app_id NUMBER;
    v_hour VARCHAR2(10) := '&v_hour';
    v_app_date DATE := TO_DATE(&date, 'DD-MM-YYYY');
    v_room NUMBER := &v_room;
    message VARCHAR2(100);
    child_id_dont_exists EXCEPTION;
    PRAGMA EXCEPTION_INIT(child_id_dont_exists, -20006);
  BEGIN

    -- Check if the child exists
    SELECT COUNT(*)
    INTO v_count
    FROM child
    WHERE child_id = v_child_id;

    IF v_count = 0 THEN
      message := 'Child id ' || v_child_id || ' dont exists ' ;
      RAISE child_id_dont_exists;
    END IF;

    -- Calculate the child age
    v_child_age := calculate_child_age(v_child_id);
    DBMS_OUTPUT.PUT_LINE('Child age: ' || v_child_age);

    SELECT age_injection
    INTO v_age_injection
    FROM injection
```

```

WHERE injection_id = v_injection_id;

-- Adding an appointment only if the child is younger than 18
IF v_child_age < 18 THEN
    -- Generate a new appointment ID
    SELECT NVL(MAX(appointment_id), 0) + 1 INTO v_app_id FROM
appointment;

    -- Add the appointment
    add_appointment(v_app_id, v_app_date, v_hour, v_room,
v_child_id, v_nurse_id, v_injection_id);
ELSE
    DBMS_OUTPUT.PUT_LINE('Child is too old for vaccination.');
```

END IF;

EXCEPTION

WHEN child_id_dont_exists THEN

RAISE_APPLICATION_ERROR(-20006, message);

WHEN OTHERS THEN

DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);

END;

END;

ניתן לראות שהילד עם תעודת הזהות 108 בן שנה

SQL Output Statistics				
<pre>select * from child</pre>				
	CHILD_ID	NAME	BIRTH_DATE	
1	100	Tay	12/11/2017	
2	101	Lou	30/01/2019	
3	102	Mar	03/06/2017	
4	103	Tin	05/07/2020	
5	104	Jef	24/11/2013	
6	105	Ray	13/12/2019	
7	106	Emi	28/01/2020	
8	107	Chr	07/05/2017	
9	108	Isa	27/04/2023	
10	109	Jas	07/12/2022	
11	110	Joh	11/12/2021	
12	111	Mac	15/07/2020	
13	112	Ash	17/01/2015	
14	113	Gab	28/08/2020	
15	114	Cat	05/05/2016	

ניתן לראות שהחיסון עם מספר 72 ניתן בגיל שנה

SQL Window - select * from injection a where a.age_injection = 1

SQL Output Statistics

```
select *
from injection a
where a.age_injection = 1
```

	INJECTION_ID	NAME	DISEASE	DOSAGE	AGE_INJECTION
1	72	Van	ALC	3.25	1
2	75	Ber	Ber	5.59	1
3	84	HCG	Hum	2.59	1
4	107	DOX	dox	6.34	1
5	149	Gli	Gli	1.91	1
6	198	Rop	Rop	1.89	1
7	203	Oxy	Oxy	5.74	1
8	265	RUE	ALC	3.56	1
9	286	GAB	tia	1.59	1
10	301	Sag	Sag	1.28	1
11	310	RIC	OCT	0.59	1
12	338	Lad	Alu	3.09	1
13	360	TON	CAM	4.3	1
14	379	Sal	Sal	4.9	1

3:26 injection@XE 14 rows selected in 0.078 seconds

הרצנו את התוכנית לקביעת החיסון 72 לילד 108

```

BEGIN
DECLARE
    v_child_age NUMBER;
    v_age_injection NUMBER;
    v_child_id NUMBER := &v_child_id;
    v_nurse_id NUMBER := &v_nurse_id;
    v_injection_id NUMBER := &v_injection_id;
    v_app_id NUMBER;
    v_hour VARCHAR2(10) := '&v_hour';
    v_app_date DATE := TO_DATE(&date, 'DD-MM-YYYY');
    v_room NUMBER := &v_room;
BEGIN
    -- Calculate the child age
    v_child_age := calculate_child_age(v_child_id);
    DBMS_OUTPUT.PUT_LINE('Child age: ' || v_child_age);

    SELECT age_injection
    INTO v_age_injection
    FROM injection
    WHERE injection_id = v_injection_id;

    -- Adding an appointment only if the child is young
    IF v_child_age < 18 THEN
        -- Generate a new appointment ID
        SELECT NVL(MAX(appointment_id), 0) + 1 INTO v_app_id
        FROM appointment;

        -- Add the appointment
        add_appointment(v_app_id, v_app_date, v_hour, v_nurse_id, v_injection_id, v_room);
    ELSE
        DBMS_OUTPUT.PUT_LINE('Child is too old for vaccination.');
```

Variables

Name	Value
v_child_id	108
v_nurse_id	104
v_injection_id	72
v_hour	10:35
date	'06/07/2023'
v_room	109

OK Cancel Clear

קיבלנו שגיאה שלא קיימת האחות הנתונה

```
Child age: 1
Error: ORA-20002: Nurse id 104 not found.
```

שינינו את האחות

```
BEGIN
DECLARE
    v_child_age NUMBER;
    v_age_injection NUMBER;
    v_child_id NUMBER := &v_child_id;
    v_nurse_id NUMBER := &v_nurse_id;
    v_injection_id NUMBER := &v_injection_id;
    v_app_id NUMBER;
    v_hour VARCHAR2(10) := 'v_hour';
    v_app_date DATE := TO_DATE(&date, 'DD-MM-YYYY');
    v_room NUMBER := &v_room;
BEGIN
    -- Calculate the child age
    v_child_age := calculate_child_age(v_child_id);
    DBMS_OUTPUT.PUT_LINE('Child age: ' || v_child_age);

    SELECT age_injection
    INTO v_age_injection
    FROM injection
    WHERE injection_id = v_injection_id;

    -- Adding an appointment only if the child is young
    IF v_child_age < 18 THEN
        -- Generate a new appointment ID
        SELECT NVL(MAX(appointment_id), 0) + 1 INTO v_app_id
        FROM appointment;

        -- Add the appointment
        add_appointment(v_app_id, v_app_date, v_hour, v_nurse_id, v_injection_id, v_room);
    ELSE
        DBMS_OUTPUT.PUT_LINE('Child is too old for vaccination.');
```

Name	Value
v_child_id	108
v_nurse_id	102
v_injection_id	72
v_hour	10:35
date	06/07/2023
v_room	109

קיבלנו

```
Child age: 1
Appointment added.
```

נראה שמסד הנתונים השתנה בטבלאות הרצויות

401	402	06/07/2023	10:35	109
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הפגישה:

הקשר בין פגישה לילד:

select *		
from injected_to a		
where a.appointment_id=402		
APPOINTMENT_ID	CHILD_ID	
1	402	108

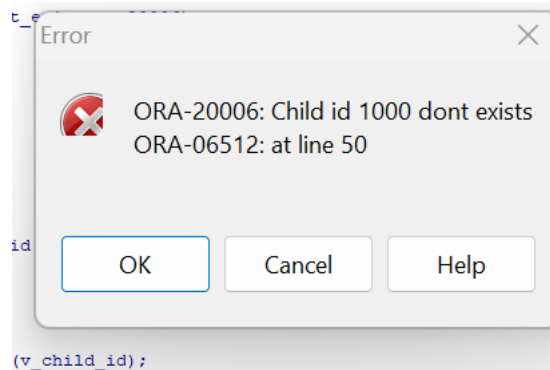
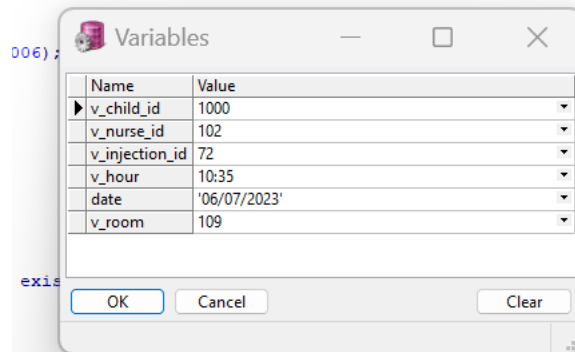
הקשר בין חיסון לפגישה:

APPOINTMENT_ID	INJECTION_ID
1	402
	72

הקשר בין אחות לפגישה:

	APPOINTMENT_ID	INJECTION_ID
▶ 1	402	72

אם הילד לא קיים ישנה שגיאה (כמו כן לגבי מספר חדר, אחות, חיסון וכן אם האחות או החדר תפוסים בשעה בה רוצים לקבוע פגישה)



תוכנית ב:

התוכנית קולטת תז של ילד ומראה את תוכנית החיסונים שלו, כלומר חיסונים שחוסן עד עכשיו וחיסונים שעליו לקבל בעתיד ובאיזה גיל

```
DECLARE
    v_child_id NUMBER := &child_id;
BEGIN
    show_vaccination_schedule(v_child_id);
END;
```

הערה לבודקים: כאשר מריצים את התוכנית צריך להגיל את גודל הבאפר בחלון output אחרת ישנה שגיאה ולא מקבלים את כל הפלט הרצוי

Variables

Name	Value
child_id	106

OK

Cancel

Clear

Clear

Buffer size 104000

☒ Enabled

injection that the child recived:

injection_name: Elt, disease: zin, date: 29-11-2024

injections the child need to get:

injection name: Fer, disease: Fer, age required: 4
injection name: Mes, disease: Mes, age required: 4
injection name: Fre, disease: Tri, age required: 4
injection name: Equ, disease: alu, age required: 4
injection name: Cal, disease: Arn, age required: 4
injection name: Aml, disease: Aml, age required: 4
injection name: Met, disease: met, age required: 4
injection name: Nam, disease: mem, age required: 4
injection name: Rit, disease: ZIN, age required: 4
injection name: Pan, disease: Pan, age required: 4
injection name: Alt, disease: Dex, age required: 4
injection name: Eve, disease: Tit, age required: 4
injection name: Mix, disease: Mix, age required: 4
injection name: LBE, disease: OCT, age required: 4
injection name: Hev, disease: ANA, age required: 4
injection name: Dil, disease: Dil, age required: 4
injection name: PAS, disease: Bah, age required: 4
injection name: Hyd, disease: Hyd, age required: 4
injection name: Esc, disease: esc, age required: 4
injection name: Jet, disease: ACO, age required: 4
injection name: Mou, disease: Mou, age required: 4
injection name: Spa, disease: Chl, age required: 4
injection name: Ter, disease: Ter, age required: 4
injection name: Eye, disease: wat, age required: 4
injection name: Bup, disease: Bup, age required: 5
injection name: ZES, disease: Lis, age required: 5
injection name: Lan, disease: lan, age required: 5
injection name: Bet, disease: Bet, age required: 5
injection name: ENA, disease: ENA, age required: 5
injection name: Lis, disease: lis, age required: 5
injection name: car, disease: Ace, age required: 5
injection name: LBE, disease: Oct, age required: 5
injection name: SHO, disease: OXY, age required: 5
injection name: Tem, disease: Tem, age required: 5
injection name: Gon, disease: FOL, age required: 5
injection name: Vel, disease: Vel, age required: 5
injection name: Irb, disease: IRB, age required: 5
injection name: SER, disease: QUE, age required: 5
injection name: Ant, disease: Eth, age required: 5
injection name: Dio, disease: TIT, age required: 5