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# מיני פרויקט

## בסייסי נתונים

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**דו"ח מסכם – חלק א**

בנושא

**יחידת יהלום (זה"ל)**



**מגישיים:**  
**יואב בביוף**  
**אביישי שחור**

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## תיאור הארגון

הארגון הוא היחידה הצבאית המובהקת **יחידה הנדרשת למשימות מיוחדות**, בראשי תיבות: **יהל"ם** (נגגה): **יהלום**. היחידה היא יחידה קרבנית מובחרת וכছו היא יוצאת למבצעים מיוחדים, מוקצת לה רב צבאי מיוחד, וכל חיל בה חבר בצוות מסוים.

### חברי היחידה:

היחידה מורכבת מהיחידה הבסיסית **solder** (חיל), כאשר ישנו חילים עם תפקידים מיוחדים.

#### • **Soldier (חיל):**

היחידה הבסיסית של הארגון, הוא האדם ממנו מרכיבים צוותים והוא יוצא למשימות, **רבעים צבאיים** (**military Rabbi**), **מפקדים** (**commander**) וכן **רופא צבאיים** (**combat medic**) הם גם חילים. לכל חיל יש מספר מזהה (id) המזהה אותו באופן חד עד ערכיו, ותכונות נוספות של חיל כגון:Tאריך לידה, שם, דת ודרגה. כל חיל הוא חיל-**in** (solder) או יותר **צוותים** (**team**) אשר בכל אחד מהם יש לו תפקיד מסוים (**responsibility**).

#### • **רב צבאי (military Rabbi):**

חיל האחראי על הצביע הדתי של חברי היהודים של היחידה, בנוסף למאפיינים הרגילים של חיל יש לו גם עדת (ethnicity), האם הוא דרשן (preacher), האם הוא פיטן (payytan), מגזר (sector) והאם הוא מוסמך לרבעות (certified Rabbi).

#### • **רופא צבאי (combat medic):**

חיל האחראי על שמירת הבריאות של חברי לצוות, הוא המטפל בהם במבצעים מיוחדים (אם הוא נמצא בהם) ואחראי לבריאותם. נוסף למאפיינים הרגילים של חיל יש לו מאפיין של הסמכה (qualification) המתארת את הפעולות הרפואיות אותן הוא מוסמך לעשות, והכשרה (in training) המתארת האם הוא בתקופת הכשרה. כל רופא צבאי גם יכול להשתתף (take part) במבצע צבאי.

#### • **מפקד (commander):**

חיל המפקד על (**on** commands) צוות ואולי גם מפקד על (**on** on missions) מבצע, כאשר אז הוא יכול לחתך חלק בקרב (active in field), או לא. נוסף למאפיינים הרגילים של חיל יש לו כינוי (nickname) אופציונלי.

### קבוצות ביחידה:

ביחידה ישנן קבוצות מיוחדות המאגדת חברי היחידה למטרת משותפת.

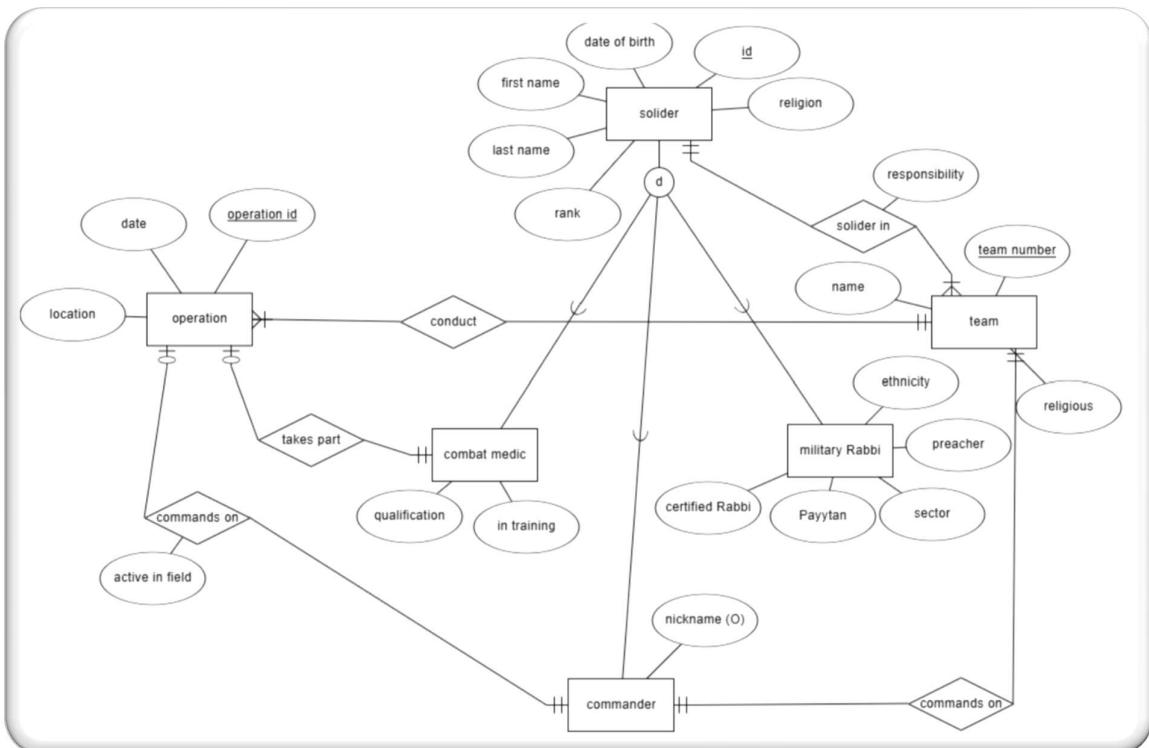
#### • **צוות (team):**

היחידה הבסיסית המאגדת חברי צוות. לכל צוות בהכרח יש מפקד המפקד על (**on** on team). כל צוות גם מבצע (**conducts**) מבצע. צוות מסוים מזוהה על פי מספר הצוות (team number).

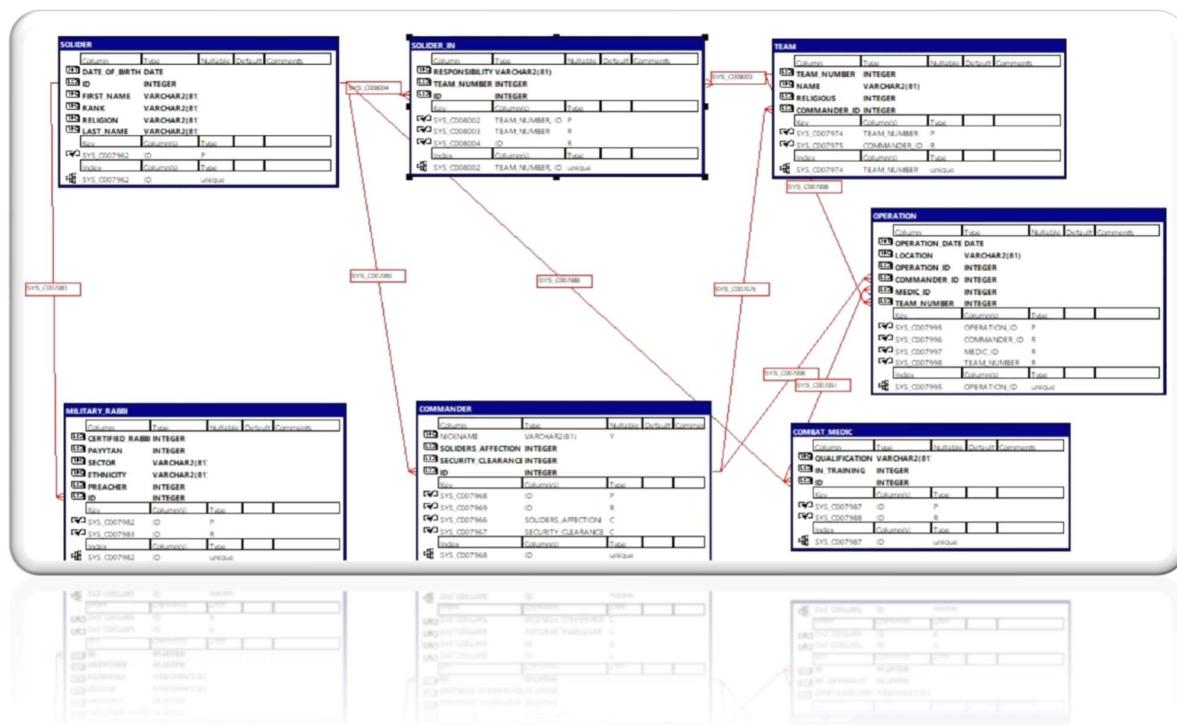
#### • **מבצע (operation):**

ביצוע צבאי הממש את היכולות אותן סיגלו לעצם **חילים**, בכל מבצע יכולים להשתתף כמה צוותים, ויש לו בהכרח רופא צבאי אחד הדואג לחילים המשתתפים בו ומפקד אחד המפקד עליהם. מבצע מזוהה לפי מזהה המבצע (id operation), ויש לו תכונות נוספות כגון:Tאריך המבצע ומיקומו.

## תרשים ה-ERD



## DSDM



## פירוט הישויות והקשרים

ח"ל – Solider

<u>מזהה</u>	<u>Id</u>
תאריך לידה	<b>Date of birth</b>
שם פרטי	<b>First name</b>
דרגה	<b>Rank</b>
דת	<b>Religion</b>
שם משפחה	<b>Last name</b>

מפקץ – commander

<u>מזהה</u>	<u>Id (fk)</u>
כינוי	<b>Nickname (o)</b>
נערות המפקד (ע"י החילימ)	<b>Solider affection</b>
סיווג בטחוני	<b>First name</b>
מספר צוות	<b>Rank</b>

רב צבאי – military rabbi

<u>מזהה</u>	<u>Id (fk)</u>
האם הוא רב מוסמך	<b>Certified rabbi</b>
האם הרב פ"יטן	<b>payytan</b>
מגזר	<b>sector</b>
עדת	<b>ethnicity</b>
האם הרב דרשן	<b>preacher</b>

חובש קרב – combat medic

<u>מזהה</u>	<u>Id (fk)</u>
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תחום התמחות	<b>Qualification</b>
האם עדין בהכשרה	<b>In Training</b>

צוות – team

<u>מספר צוות</u>	<b>Team number</b>
מזהה המפקד	<b>Commander Id (fk)</b>
שם הצוות	<b>Name</b>
האם הצוות הינו צוות דתי	<b>Religious</b>

מבצע צבאי – Operation

<u>מזהה מבצע</u>	<b>Operation ID</b>
תאריך בו בוצע המבצע	<b>Date</b>
מזהה מפקד	<b>Commander Id (fk)</b>
מזהה חובש קרב'	<b>medic Id (fk)</b>
מקום המבצע	<b>Location</b>
מספר צוות בו חבר החיל	<b>Team Number (fk)</b>

חיל בצוות – solider in

<u>מזהה החיל</u>	<b>ID (fk)</b>
מספר הצוות בו החיל נמצא	<b>Team number (fk)</b>
תפקיד החיל בצוות	<b>responsibility</b>

## נרטוֹל הסכמה

הסכם מנוּרמָלָת לפי  $3NF$ , שכן לכל הטבלאות שלנו, כל תכונה תלוייה בכל התכונות שבמפתח, ורק בהן.

## פקודות create table

```
-- Create table for soldiers
CREATE TABLE solider
(
    date_of_birth DATE NOT NULL,
    id INT NOT NULL,
    first_name VARCHAR(81) NOT NULL,
    rank VARCHAR(81) NOT NULL,
    religion VARCHAR(81) NOT NULL,
    last_name VARCHAR(81) NOT NULL,
    PRIMARY KEY (id)
);

-- Create table for commanders
CREATE TABLE commander
(
    nickname VARCHAR(81),
    soliders_affection INT NOT NULL, CHECK (soliders_affection >= 1 AND
soliders_affection <= 10),
    security_clearance INT NOT NULL, CHECK (security_clearance >= 1 AND
security_clearance <= 5),
    id INT NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (id) REFERENCES solider(id)
);

-- Create table for teams
CREATE TABLE team
(
    team_number INT NOT NULL,
    name VARCHAR(81) NOT NULL,
    religious INT NOT NULL,
    commander_id INT NOT NULL,
    PRIMARY KEY (team_number),
    FOREIGN KEY (commander_id) REFERENCES commander(id)
);

-- Create table for military rabbis
CREATE TABLE military_Rabbi
(
    certified_Rabbi INT NOT NULL,
    Payttan INT NOT NULL,
    sector VARCHAR(81) NOT NULL,
    ethnicity VARCHAR(81) NOT NULL,
    preacher INT NOT NULL,
    id INT NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (id) REFERENCES solider(id)
);

-- Create table for combat medics
CREATE TABLE combat_medic
(
    qualification VARCHAR(81) NOT NULL,
    in_training INT NOT NULL,
    id INT NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (id) REFERENCES solider(id)
);
```

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אבייש שchor

```
-- Create table for military operations
CREATE TABLE operation
(
    operation_date DATE NOT NULL,
    location VARCHAR(81) NOT NULL,
    operation_id INT NOT NULL,
    commander_id INT NOT NULL,
    medic_id INT NOT NULL,
    team_number INT NOT NULL,
    PRIMARY KEY (operation_id),
    FOREIGN KEY (commander_id) REFERENCES commander(id),
    FOREIGN KEY (medic_id) REFERENCES combat_medic(id),
    FOREIGN KEY (team_number) REFERENCES team(team_number)
);

-- create table for solider-team connection
CREATE TABLE solider_in
(
    responsibility VARCHAR(81) NOT NULL,
    team_number INT NOT NULL,
    id INT NOT NULL,
    PRIMARY KEY (team_number, id),
    FOREIGN KEY (team_number) REFERENCES team(team_number),
    FOREIGN KEY (id) REFERENCES solider(id)
);
```

## הפעלה desc

נבדוק שהטבלאות נוצרו:

```
SQL> SELECT table_name FROM user_tables;  
  
TABLE_NAME  
-----  
SOLIDER  
COMMANDER  
TEAM  
MILITARY_RABBI  
COMBAT_MEDIC  
OPERATION  
SOLIDER_IN  
  
7 rows selected
```

יכן הן נוצרו.

נפעיל את פקודות DESC[RE]BIE על מנת לוודא שהטבלאות נוצרו כראוי:

```
SQL> desc military_rabbi  
Name          Type      Nullable Default Comments  
-----  
CERTIFIED_RABBI  INTEGER  
PAYYTAN        INTEGER  
SECTOR          VARCHAR2(81)  
ETHNICITY        VARCHAR2(81)  
PREACHER         INTEGER  
ID              INTEGER  
  
SQL> desc team  
Name          Type      Nullable Default Comments  
-----  
TEAM_NUMBER    INTEGER  
NAME           VARCHAR2(81)  
RELIGIOUS       INTEGER  
COMMANDER_ID   INTEGER  
  
SQL> desc operation  
Name          Type      Nullable Default Comments  
-----  
OPERATION_DATE DATE  
LOCATION        VARCHAR2(81)  
OPERATION_ID    INTEGER  
COMMANDER_ID    INTEGER  
MEDIC_ID        INTEGER  
TEAM_NUMBER     INTEGER  
  
SQL> desc solider_in  
Name          Type      Nullable Default Comments  
-----  
RESPONSIBILITY VARCHAR2(81)  
TEAM_NUMBER    INTEGER  
ID             INTEGER
```

```
SQL> desc solider
Name          Type           Nullable Default Comments
-----
DATE_OF_BIRTH DATE
ID            INTEGER
FIRST_NAME    VARCHAR2(81)
RANK          VARCHAR2(81)
RELIGION      VARCHAR2(81)
LAST_NAME     VARCHAR2(81)

SQL> desc commander
Name          Type           Nullable Default Comments
-----
NICKNAME      VARCHAR2(81)  Y
SOLDIERS_AFFECTION INTEGER
SECURITY_CLEARANCE INTEGER
ID            INTEGER

SQL> desc combat_medic
Name          Type           Nullable Default Comments
-----
QUALIFICATION VARCHAR2(81)
IN_TRAINING   INTEGER
ID            INTEGER
```

ואכן כל הattribut נוצרו כנדרש.

## פקודות drop tables

```
-- Drop the combat_medic table
DROP TABLE combat_medic CASCADE CONSTRAINTS;

-- Drop the military_rabbi table
DROP TABLE military_rabbi CASCADE CONSTRAINTS;

-- Drop the operation table
DROP TABLE operation CASCADE CONSTRAINTS;

-- Drop the team table
DROP TABLE team CASCADE CONSTRAINTS;

-- Drop the commander table
DROP TABLE commander CASCADE CONSTRAINTS;

-- Drop the solider table
DROP TABLE solider CASCADE CONSTRAINTS;

-- Drop the solider-in table
DROP TABLE solider_in CASCADE CONSTRAINTS;
```

## פקודות select all

```
-- Select all records from the solider table
SELECT * FROM solider;

-- Select all records from the commander table
SELECT * FROM commander;

-- Select all records from the team table
SELECT * FROM team;

-- Select all records from the military_Rabbi table
SELECT * FROM military_Rabbi;

-- Select all records from the combat_medic table
SELECT * FROM combat_medic;

-- Select all records from the operation table
SELECT * FROM operation;

-- Select all records from the solider-n table
SELECT * FROM solider_in;
```

## יצירת מידע

### Mockaroo – 1 שיטה

Military Rabii:

Field Name	Type	Options
certified_Rabbi	Number	min: 0 max: 1 decimals: 0 blank: 0 % Σ X
Payytan	Number	min: 0 max: 1 decimals: 0 blank: 0 % Σ X
sector	Custom List	Religious Zionism, Haredi-Litai, Haredi-Hasidic  random  blank: 0 % Σ X
ethnicity	Custom List	Ashkenazi, Sephard, Edot-Mizrah  random  blank: 0 % Σ X
preacher	Number	min: 0 max: 1 decimals: 0 blank: 0 % Σ X
id	Number	min: 10000000 max: 999999999 decimals: 0 blank: 0 % Σ X

Combat Medic:

Field Name	Type	Options
qualification	Custom List	MD, DO, DDS, DMD, RN, NP, PA, PharmD, DPT, DC  random  blank: 0 % Σ X
in_training	Number	min: 0 max: 1 decimals: 0 blank: 0 % Σ X
id	Row Number	blank: 0 % Σ X

Commander:

Field Name	Type	Options
nickname	First Name	blank: 0 % Σ X
soldiers_affection	Number	min: 1 max: 10 decimals: 0 blank: 0 % Σ X
security_clearance	Number	min: 1 max: 5 decimals: 0 blank: 0 % Σ X
id	Row Number	blank: 0 % Σ X

Team:

Field Name	Type	Options
team_number	Row Number	blank: 0 % Σ X
name	Animal Scientific Na...	blank: 0 % Σ X
religious	Number	min: 0 max: 1 decimals: 0 blank: 0 % Σ X
commander_id	Row Number	blank: 0 % Σ X

Operation:

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### אכיש שחר

Field Name	Type	Options
operation_date	Datetime	01/01/2000 <input type="button" value="Calendar"/> to 12/31/2022 <input type="button" value="Calendar"/> format: m/d/yyyy blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
location	Street Address	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
operation_id	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
commander_id	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
medic_id	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
team_number	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>

### Solider:

Field Name	Type	Options
date_of_birth	Datetime	01/01/1980 <input type="button" value="Calendar"/> to 12/31/2022 <input type="button" value="Calendar"/> format: m/d/yyyy blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
id	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
first_name	First Name	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
rank	Custom List	Private, Corporal, Sergeant, Lieutenant, Captain, Major, Colonel, General <input type="button" value="random"/> blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
religion	Custom List	Jewish, Christian, Muslim, Hindu, Buddhist, Druze, Bahai, Sikh, Other <input type="button" value="random"/> blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
last_name	Last Name	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>

### Solider-In:

Field Name	Type	Options
responsibility	Custom List	sniper, scout, demolition expert, communications specialist, heavy gunner, engineer, reconnaissance, <input type="button" value="random"/> random blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
team_number	Row Number	blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>
id	Number	min: 1 max: 1200 decimals: 0 blank: 0 % <input type="button" value="Σ"/> <input type="button" value="X"/>

Generated SQL code can be found in the GitHub directory.

Here is a sample of the generated SQL code and it's result:

```
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1998-02-09',1,'Madelene','Corporal','Druze','McDougal');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2011-3-4',2,'Kerwin','Lieutenant','Zoroastrian','Cordingly');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1997-4-6',3,'Blakeley','Lieutenant','Muslim','Alecock');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2003-2-02',4,'Domingo','General','Jewish','Wildgoose');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1998-9-06',5,'Lori','Captain','Zoroastrian','Slorance');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1986-9-9',6,'Trixie','Sergeant','Christian','Pettaward');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2015-6-05',7,'Paco','Colonel','Zoroastrian','Campelli');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1985-1-01',8,'Rochelle','Colonel','Jewish','Shotter');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1999-02-10',9,'Kile','Private','Hindu','Bebis');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2008-11-11',10,'Hodge','Private','Hindu','Upton');

INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1989-06-08',401,'Fallon','Lieutenant','Sikh','Mullard');
```

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```

INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2009-07-03',402,'Ed','Sergeant','Sikh','Kesteven');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2020-03-
07',403,'Birgitta','Corporal','Zoroastrian','Frediani');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1997-05-06',404,'Martie','Private','Jewish','Malia');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2005-8-9',405,'Townie','Colonel','Christian','Bromby');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2015-4-5',406,'Heindrick','Colonel','Sikh','Lett');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2016-7-4',407,'Lianna','Captain','Sikh','Jouannot');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1993-01-09',408,'Iggie','Private','Sikh','Kelf');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2012-04-12',409,'Andra','Captain','Druze','Gascoigne');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2017-2-12',410,'Theressa','General','Druze','Janic');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1999-08-05',411,'Bertrando','Major','Sikh','Murfill');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1996-01-04',412,'Alberto','Corporal','Muslim','Russilll');

INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2008-10-12',801,'Kellina','Corporal','Zoroastrian','Storer');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1996-02-03',802,'Adah','Corporal','Muslim','Rubes');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2022-1-7',803,'Hercules','General','Sikh','Ferri');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1991-07-05',804,'Farris','Private','Christian','Steel');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2014-2-1',805,'Fancie','Lieutenant','Jewish','Fielder');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1986-8-6',806,'Emalia','Private','Sikh','Wheatland');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2017-2-4',807,'Karil','Private','Druze','Ravillas');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1985-12-10',808,'Arty','Lieutenant','Sikh','Pinney');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '1992-2-8',809,'Marion','Colonel','Jewish','MacCrann');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2019-5-12',810,'Justin','Lieutenant','Zoroastrian','Gillet');
INSERT INTO solider (date_of_birth,id,first_name,rank,religion,last_name)
VALUES (DATE '2015-1-3',811,'Jose','Major','Muslim','Mellsop');

insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (1,1,'Haredi-Litai','Ashkenazi',1,1);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (0,1,'Haredi-Litai','Sphard',1,2);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (0,1,'Haredi-Hasidic','Ashkenazi',1,3);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (0,1,'Haredi-Hasidic','Edot-Mizrah',1,4);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (0,1,'Religious Zionism','Sphard',0,5);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (1,0,'Haredi-Hasidic','Sphard',0,6);
insert into military_rabbi (certified_Rabbi, Paytan, sector, ethnicity,
preacher, id) values (1,0,'Religious Zionism','Edot-Mizrah',1,7);

```

```

insert into combat_medic (qualification,in_training,id) values
('RN',1,401);
insert into combat_medic (qualification,in_training,id) values
('DPT',1,402);
insert into combat_medic (qualification,in_training,id) values
('DPT',1,403);
insert into combat_medic (qualification,in_training,id) values
('MD',0,404);
insert into combat_medic (qualification,in_training,id) values
('NP',1,405);
insert into combat_medic (qualification,in_training,id) values
('DMD',1,406);

insert into commander (nickname, soliders_affection, security_clearance,
id) values ('benchmark', 9, 4, 801);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('firmware', 6, 5, 802);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('4th generation', 10, 3, 803);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('knowledge user', 7, 4, 804);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('artificial intelligence', 1, 3, 805);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('user-facing', 5, 5, 806);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('user-facing', 5, 5, 807);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('user-facing', 5, 5, 808);
insert into commander (nickname, soliders_affection, security_clearance,
id) values ('user-facing', 5, 5, 809);

insert into team (team_number, name, religious, commander_id) values (1,
'Stenella coeruleoalba', 1, 801);
insert into team (team_number, name, religious, commander_id) values (2,
'Neophron percnopterus', 1, 802);
insert into team (team_number, name, religious, commander_id) values (3,
'Ardea golieth', 0, 803);
insert into team (team_number, name, religious, commander_id) values (4,
'Cyrtodactylus louisianensis', 0, 804);
insert into team (team_number, name, religious, commander_id) values (5,
'Eremophila alpestris', 1, 805);
insert into team (team_number, name, religious, commander_id) values (6,
'Vanessa indica', 1, 806);
insert into team (team_number, name, religious, commander_id) values (7,
'Sus scrofa', 0, 807);

insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2015-1-
3','China',2358239,801,401,1);
insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2016-2-
10','Brazil',2358240,802,402,2);
insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2003-1-
10','Russia',2358241,803,403,3);
insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2010-4-
12','China',2358242,804,404,4);

```

## ואב בביוף

## אבייש שחר

```

insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2007-5-
3','Japan',2358243,805,405,5);
insert into operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) values (DATE '2003-6-
2','Brazil',2358244,806,406,6);

insert into solider_in (responsibility, team_number, id) values
('communications specialist', 1, 402);
insert into solider_in (responsibility, team_number, id) values
('engineer', 2, 804);
insert into solider_in (responsibility, team_number, id) values
('marksman', 3, 7);
insert into solider_in (responsibility, team_number, id) values ('heavy
gunner', 4, 807);
insert into solider_in (responsibility, team_number, id) values ('heavy
gunner', 5, 404);

commit;

```

processing select-all:

## SOLIDER-IN:

	RESPONSIBILITY	TEAM_NUMBER	ID
1	communications specialist	1	402
2	engineer	2	804
3	marksman	3	7
4	heavy gunner	4	807
5	heavy qunner	5	404

## SOLIDER:

	DATE_OF_BIRTH	ID	FIRST_NAME	RANK	RELIGION	LAST_NAME
1	09/02/1998	1	Madelene	Corporal	Druze	McDougal
2	04/03/2011	2	Kerwin	Lieutenant	Zoroastrian	Cordingly
3	06/04/1997	3	Blakeley	Lieutenant	Muslim	Alecock
4	02/02/2003	4	Domingo	General	Jewish	Wildgoose
5	06/09/1998	5	Lori	Captain	Zoroastrian	Slorance
6	09/09/1986	6	Trixie	Sergeant	Christian	Pettaward
7	05/06/2015	7	Paco	Colonel	Zoroastrian	Campelli
8	01/01/1985	8	Rochelle	Colonel	Jewish	Shotter
9	10/02/1999	9	Kile	Private	Hindu	Bebis
10	11/11/2008	10	Hodge	Private	Hindu	Upton
11	08/06/1989	401	Fallon	Lieutenant	Sikh	Mullard
12	03/07/2009	402	Ed	Sergeant	Sikh	Kesteven
13	07/03/2020	403	Birgitta	Corporal	Zoroastrian	Frediani
14	06/05/1997	404	Martie	Private	Jewish	Malia

ואב בביוף

אבי שchor

#### COMMANDER:

	NICKNAME	SOLDERS_AFFECTION	SECURITY_CLEARANCE	ID
1	benchmark	9	4	801
2	firmware	6	5	802
3	4th generation	10	3	803
4	knowledge user	7	4	804
5	artificial intelligence	1	3	805
6	user-facing	5	5	806
7	user-facing	5	5	807
8	user-facing	5	5	808
9	user-facing	5	5	809

#### TEAM:

	TEAM_NUMBER	NAME	RELIGIOUS	COMMANDER_ID
1	1	Stenella coeruleoalba	1	801
2	2	Neophron percnopterus	1	802
3	3	Ardea goliath	0	803
4	4	Cyrtodactylus louisiadensis	0	804
5	5	Eremophila alpestris	1	805
6	6	Vanessa indica	1	806
7	7	Sus scrofa	0	807

#### MILITARY RABBI:

	CERTIFIED_RABBI	PAYYTAN	SECTOR	ETHNICITY	PREACHER	ID
1	1	1	Haredi-Litai	Ashkenazi	1	1
2	0	1	Haredi-Litai	Sphard	1	2
3	0	1	Haredi-Hasidic	Ashkenazi	1	3
4	0	1	Haredi-Hasidic	Edot-Mizrah	1	4
5	0	1	Religious Zionism	Sphard	0	5
6	1	0	Haredi-Hasidic	Sphard	0	6
7	1	0	Reliaious Zionism	Edot-Mizrah	1	7

#### COMBAT MEDIC:

	QUALIFICATION	IN_TRAINING	ID
1	RN	1	401
2	DPT	1	402
3	DPT	1	403
4	MD	0	404
5	NP	1	405
6	DMD	1	406

בש"ד  
מini-פרויקט בסיסי נתונים

ואב בביוף

אבייש שchor

OPERATION:

	OPERATION_DATE	LOCATION	OPERATION_ID	COMMANDER_ID	MEDIC_ID	TEAM_NUMBER
1	03/01/2015	▼ China	... 2358239	801	401	1
2	10/02/2016	▼ Brazil	... 2358240	802	402	2
3	10/01/2003	▼ Russia	... 2358241	803	403	3
4	12/04/2010	▼ China	... 2358242	804	404	4
5	03/05/2007	▼ Japan	... 2358243	805	405	5
6	02/06/2003	▼ Brazil	... 2358244	806	406	6

## שיטה 2 – python code

הקוד הבא יוצר קובץ sql אשר בו פקודות insert של נתונים המיצרים אקרואית לכל טבלה:

```
import random
import string
import datetime

# Define possible values for VARCHAR fields
possible_values = {
    'first_name': ['John', 'Jane', 'Alice', 'Bob', 'Charlie'],
    'last_name': ['Smith', 'Doe', 'Johnson', 'Williams', 'Brown'],
    'rank': ['Private', 'Sergeant', 'Lieutenant', 'Captain', 'Major'],
    'religion': ['Christianity', 'Judaism', 'Islam', 'Hinduism',
    'Buddhism'],
    'nickname': ['Eagle', 'Tiger', 'Wolf', 'Bear', 'Lion'],
    'sector': ['North', 'South', 'East', 'West', 'Central'],
    'ethnicity': ['Caucasian', 'African American', 'Asian', 'Hispanic',
    'Other'],
    'qualification': ['Basic', 'Advanced', 'Expert'],
    'location': ['Base A', 'Base B', 'Base C', 'Base D', 'Base E'],
    'team_name': ['Alpha', 'Bravo', 'Charlie', 'Delta', 'Echo'],
    'responsibility': ['sniper', 'scout', 'demolition expert',
    'communications specialist', 'heavy gunner', 'engineer',
    'reconnaissance', 'marksman', 'grenadier'],
    'sharpshooter']
}

def generate_random_string(length=10):
    return ''.join(random.choices(string.ascii_letters + string.digits,
k=length))

def generate_date_help():
    start_date = datetime.date(1980, 1, 1)
    end_date = datetime.date(2000, 12, 31)
    return start_date + (end_date - start_date) * random.random()

def generate_date():
    date = "DATE " + generate_date_help().strftime("%Y-%m-%d") + " "
    return date

def generate_sql_file(num_soldiers, num_commanders, num_teams, num_rabbis,
num_medics, num_operations, num_soliders_in):
    soldiers = []
    commanders = []
    teams = []
    military_rabbis = []
    combat_medics = []
    operations = []
    soliders_in = []

    for i in range(1, num_soldiers + 1):
        soldier = {
            'date_of_birth': generate_date(),
            'id': i,
```

יאוב בביוף  
אבייש שחר

```
'first_name': random.choice(possible_values['first_name']),
'rank': random.choice(possible_values['rank']),
'religion': random.choice(possible_values['religion']),
'last_name': random.choice(possible_values['last_name']),
'team_number': random.randint(1, num_teams)
}
soldiers.append(soldier)

for i in range(1, num_commanders + 1):
    commander = {
        'nickname': random.choice(possible_values['nickname']),
        'soliders_affection': random.randint(1, 10),
        'security_clearance': random.randint(1, 5),
        'id': soldiers[i % num_soldiers]['id']
    }
    commanders.append(commander)

for i in range(1, num_teams + 1):
    team = {
        'team_number': i,
        'name': random.choice(possible_values['team_name']),
        'religious': random.randint(0, 1),
        'commander_id': commanders[i % num_commanders]['id']
    }
    teams.append(team)

for i in range(1, num_rabbis + 1):
    rabbi = {
        'certified_Rabbi': random.randint(0, 1),
        'Payytan': random.randint(0, 1),
        'sector': random.choice(possible_values['sector']),
        'ethnicity': random.choice(possible_values['ethnicity']),
        'preacher': random.randint(0, 1),
        'id': soldiers[i % num_soldiers]['id']
    }
    military_rabbis.append(rabbi)

for i in range(1, num_medics + 1):
    medic = {
        'qualification':
random.choice(possible_values['qualification']),
        'in_training': random.randint(0, 1),
        'id': soldiers[i % num_soldiers]['id']
    }
    combat_medics.append(medic)

for i in range(1, num_operations + 1):
    operation = {
        'operation_date': generate_date(),
        'location': random.choice(possible_values['location']),
        'operation_id': i,
        'commander_id': commanders[i % num_commanders]['id'],
        'medic_id': combat_medics[i % num_medics]['id'],
        'team_number': teams[i % num_teams]['team_number']
    }
    operations.append(operation)

for i in range(1, num_soliders_in + 1):
    solider_in = {
        'responsibility':
random.choice(possible_values['responsibility']),
        'team_number': teams[i % num_teams]['team_number'],
        'id': soldiers[i % num_soldiers]['id']
    }
    soliders_in.append(solider_in)
```

ואב בביוף

אביישי שחור

```

        'id': soldiers[i % num_soldiers]['id'],
        'team_number': teams[i % num_teams]['team_number']
    }
    soliders_in.append(solider_in)

    # Create SQL file
    with open('insertTables.sql', 'w') as f:
        # Insert soldiers
        for soldier in soldiers:
            f.write(
                f"INSERT INTO solider (date_of_birth, id, first_name, rank,
religion, last_name) VALUES ({soldier['date_of_birth']}, {soldier['id']},
'{soldier['first_name']}', '{soldier['rank']}', '{soldier['religion']}',
'{soldier['last_name']}");\n")

        # Insert commanders
        for commander in commanders:
            f.write(
                f"INSERT INTO commander (nickname, soliders_affection,
security_clearance, id) VALUES ('{commander['nickname']}',
{commander['soliders_affection']}, {commander['security_clearance']},
{commander['id']});\n")

        # Insert teams
        for team in teams:
            f.write(
                f"INSERT INTO team (team_number, name, religious,
commander_id) VALUES ({team['team_number']}, '{team['name']}',
{team['religious']}, {team['commander_id']});\n")

        # Insert military rabbis
        for rabbi in military_rabbis:
            f.write(
                f"INSERT INTO military_Rabbi (certified_Rabbi, Payytan,
sector, ethnicity, preacher, id) VALUES ({rabbi['certified_Rabbi']},
{rabbi['Payytan']}, '{rabbi['sector']}', '{rabbi['ethnicity']}',
{rabbi['preacher']}, {rabbi['id']});\n")

        # Insert combat medics
        for medic in combat_medics:
            f.write(
                f"INSERT INTO combat_medic (qualification, in_training, id)
VALUES ('{medic['qualification']}', {medic['in_training']},
{medic['id']});\n")

        # Insert operations
        for operation in operations:
            f.write(
                f"INSERT INTO operation (operation_date, location,
operation_id, commander_id, medic_id, team_number) VALUES
({operation['operation_date']}), '{operation['location']}',
{operation['operation_id']}, {operation['commander_id']},
{operation['medic_id']}, {operation['team_number']});\n")

        # Insert solider-team connections
        for solider_in in soliders_in:
            f.write(
                f"INSERT INTO solider_in (responsibility, id, team_number)
VALUES ('{solider_in['responsibility']}', '{solider_in['id']}',
{solider_in['team_number']});\n")

```

ואב בביוף  
אבייש שוחר

```
if __name__ == '__main__':
    # Specify the number of entries for each table
    num_soldiers = 1200
    num_commanders = 400
    num_teams = 400
    num_rabbis = 400
    num_medics = 400
    num_operations = 400
    num_soliders_in = 400

    generate_sql_file(num_soldiers, num_commanders, num_teams, num_rabbis,
num_medics, num_operations, num_soliders_in)
```

דוגמת קוד עבור כמה כניסה נموוכה:

```
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1984-08-09', 1, 'Charlie', 'Lieutenant',
'Buddhism', 'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1996-08-28', 2, 'Bob', 'Sergeant', 'Buddhism',
'Doe');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1985-06-05', 3, 'John', 'Sergeant', 'Hinduism',
'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '2000-07-01', 4, 'Bob', 'Lieutenant', 'Buddhism',
'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1988-06-05', 5, 'John', 'Captain', 'Judaism',
'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1985-05-15', 6, 'John', 'Captain', 'Hinduism',
'Johnson');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1989-08-25', 7, 'John', 'Sergeant', 'Judaism',
'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1988-12-07', 8, 'Alice', 'Sergeant', 'Islam',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1997-06-29', 9, 'Charlie', 'Captain', 'Judaism',
'Doe');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1993-05-26', 10, 'John', 'Private', 'Hinduism',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1983-04-05', 11, 'Alice', 'Private', 'Judaism',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1982-11-30', 12, 'Jane', 'Sergeant', 'Judaism',
'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1981-06-17', 13, 'Bob', 'Sergeant',
'Christianity', 'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1987-11-17', 14, 'John', 'Sergeant', 'Judaism',
'Smith');
```

## ואב בביוף

## אבייש שחר

```

INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1995-12-01', 15, 'Charlie', 'Private', 'Judaism',
'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1985-02-18', 16, 'Alice', 'Lieutenant', 'Islam',
'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1981-09-13', 17, 'John', 'Major', 'Judaism',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1986-12-31', 18, 'Jane', 'Private', 'Buddhism',
'Doe');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1987-06-29', 19, 'Charlie', 'Sergeant', 'Judaism',
'Johnson');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '2000-12-23', 20, 'Charlie', 'Private', 'Hinduism',
'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1994-02-27', 21, 'Bob', 'Sergeant', 'Islam',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1992-11-17', 22, 'Jane', 'Sergeant', 'Islam',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1985-07-23', 23, 'Bob', 'Sergeant', 'Judaism',
'Brown');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1994-05-15', 24, 'Charlie', 'Captain',
'Christianity', 'Doe');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1997-12-26', 25, 'Charlie', 'Sergeant',
'Buddhism', 'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1985-09-11', 26, 'Bob', 'Private', 'Buddhism',
'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1995-06-09', 27, 'Alice', 'Captain', 'Judaism',
'Williams');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1987-01-08', 28, 'Bob', 'Lieutenant',
'Christianity', 'Johnson');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1982-05-24', 29, 'Charlie', 'Sergeant',
'Christianity', 'Smith');
INSERT INTO solider (date_of_birth, id, first_name, rank, religion,
last_name) VALUES (DATE '1991-01-27', 30, 'Jane', 'Lieutenant', 'Islam',
'Williams');
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Eagle', 7, 2, 2);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Bear', 7, 2, 3);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Tiger', 3, 4, 4);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Wolf', 10, 4, 5);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Bear', 7, 5, 6);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Bear', 6, 1, 7);

```

## ואב בביוף

## אבייש שחר

```

INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Tiger', 9, 5, 8);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Tiger', 9, 1, 9);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Wolf', 8, 1, 10);
INSERT INTO commander (nickname, soliders_affection, security_clearance,
id) VALUES ('Lion', 1, 1, 11);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (1,
'Alpha', 0, 3);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (2,
'Bravo', 1, 4);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (3,
'Echo', 0, 5);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (4,
'Echo', 0, 6);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (5,
'Delta', 0, 7);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (6,
'Charlie', 0, 8);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (7,
'Charlie', 1, 9);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (8,
'Bravo', 1, 10);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (9,
'Bravo', 0, 11);
INSERT INTO team (team_number, name, religious, commander_id) VALUES (10,
'Echo', 1, 2);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (1, 0, 'South', 'African American', 0, 2);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (1, 0, 'Central', 'Asian', 1, 3);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 0, 'East', 'Other', 0, 4);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 1, 'West', 'African American', 1, 5);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 1, 'West', 'Hispanic', 0, 6);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 0, 'South', 'Caucasian', 1, 7);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 0, 'West', 'African American', 1, 8);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (1, 0, 'West', 'Caucasian', 0, 9);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (1, 1, 'South', 'Caucasian', 1, 10);
INSERT INTO military_Rabbi (certified_Rabbi, Payytan, sector, ethnicity,
preacher, id) VALUES (0, 0, 'East', 'Hispanic', 0, 11);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Expert',
0, 2);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Basic',
0, 3);
INSERT INTO combat_medic (qualification, in_training, id) VALUES
('Advanced', 0, 4);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Basic',
0, 5);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Basic',
1, 6);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Expert',
0, 7);

```

**יאוב בביוף****אבייש שחר**

```

INSERT INTO combat_medic (qualification, in_training, id) VALUES
('Advanced', 1, 8);
INSERT INTO combat_medic (qualification, in_training, id) VALUES
('Advanced', 0, 9);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Expert',
1, 10);
INSERT INTO combat_medic (qualification, in_training, id) VALUES ('Expert',
1, 11);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1981-09-30', 'Base B',
1, 3, 3, 2);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1992-12-17', 'Base C',
2, 4, 4, 3);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1995-10-24', 'Base B',
3, 5, 5, 4);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1995-09-16', 'Base E',
4, 6, 6, 5);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1993-03-17', 'Base B',
5, 7, 7, 6);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1987-01-11', 'Base E',
6, 8, 8, 7);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1985-11-18', 'Base A',
7, 9, 9, 8);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1992-08-29', 'Base C',
8, 10, 10, 9);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '2000-05-30', 'Base B',
9, 11, 11, 10);
INSERT INTO operation (operation_date, location, operation_id,
commander_id, medic_id, team_number) VALUES (DATE '1992-11-19', 'Base B',
10, 2, 2, 1);
INSERT INTO solider_in (responsibility, id, team_number) VALUES ('scout',
'2', 2);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('marksman', '3', 3);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('sharpshooter', '4', 4);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('engineer', '5', 5);
INSERT INTO solider_in (responsibility, id, team_number) VALUES ('scout',
'6', 6);
INSERT INTO solider_in (responsibility, id, team_number) VALUES ('scout',
'7', 7);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('reconnaissance', '8', 8);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('engineer', '9', 9);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('sharpshooter', '10', 10);
INSERT INTO solider_in (responsibility, id, team_number) VALUES
('demolition expert', '11', 1);
commit;

```

בש"ת

מינ-פרוייקט בסיסי נתונים

ויאב בביוף

אכיש שchor

והתוצאה לאחר all:

## SOLIDER-IN:

	RESPONSIBILITY	TEAM_NUMBER	ID
1	scout	2	2
2	marksman	3	3
3	sharpshooter	4	4
4	engineer	5	5
5	scout	6	6
6	scout	7	7
7	reconnaissance	8	8
8	engineer	9	9
9	sharpshooter	10	10
10	demolition expert	11	11

## SOLIDER:

	DATE_OF_BIRTH	ID	FIRST_NAME	RANK	RELIGION	LAST_NAME
1	09/08/1984	1	Charlie	Lieutenant	Buddhism	Brown
2	28/08/1996	2	Bob	Sergeant	Buddhism	Doe
3	05/06/1985	3	John	Sergeant	Hinduism	Smith
4	01/07/2000	4	Bob	Lieutenant	Buddhism	Williams
5	05/06/1988	5	John	Captain	Judaism	Smith
6	15/05/1985	6	John	Captain	Hinduism	Johnson
7	25/08/1989	7	John	Sergeant	Judaism	Smith
8	07/12/1988	8	Alice	Sergeant	Islam	Brown
9	29/06/1997	9	Charlie	Captain	Judaism	Doe
10	26/05/1993	10	John	Private	Hinduism	Brown
11	05/04/1983	11	Alice	Private	Judaism	Brown
12	30/11/1982	12	Jane	Sergeant	Judaism	Williams
13	17/06/1981	13	Bob	Sergeant	Christianity	Brown
14	17/11/1987	14	John	Sergeant	Judaism	Smith

## COMMANDER:

	NICKNAME	SOLDERS_AFFECTION	SECURITY_CLEARANCE	ID
1	Eagle	7	2	2
2	Bear	7	2	3
3	Tiger	3	4	4
4	Wolf	10	4	5
5	Bear	7	5	6
6	Bear	6	1	7
7	Tiger	9	5	8
8	Tiger	9	1	9
9	Wolf	8	1	10
10	Lion	1	1	11

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אבייש שחרור

TEAM:

	TEAM_NUMBER	NAME	RELIGIOUS	COMMANDER_ID
1	1	Alpha	0	3
2	2	Bravo	1	4
3	3	Echo	0	5
4	4	Echo	0	6
5	5	Delta	0	7
6	6	Charlie	0	8
7	7	Charlie	1	9
8	8	Bravo	1	10
9	9	Bravo	0	11
10	10	Echo	1	2

MILITARY RABBI:

	CERTIFIED_RABBI	PAYYTAN	SECTOR	ETHNICITY	PREACHER	ID
1	1	0	South	African American	0	2
2	1	0	Central	Asian	1	3
3	0	0	East	Other	0	4
4	0	1	West	African American	1	5
5	0	1	West	Hispanic	0	6
6	0	0	South	Caucasian	1	7
7	0	0	West	African American	1	8
8	1	0	West	Caucasian	0	9
9	1	1	South	Caucasian	1	10
10	0	0	East	Hispanic	0	11

COMBAT MEDIC:

	QUALIFICATION	IN_TRAINING	ID
1	Expert	0	2
2	Basic	0	3
3	Advanced	0	4
4	Basic	0	5
5	Basic	1	6
6	Expert	0	7
7	Advanced	1	8
8	Advanced	0	9
9	Expert	1	10
10	Expert	1	11

בש"ד  
מיני-פרויקט בבסיסי נתונים

ואב בביוף

אבייש שחר

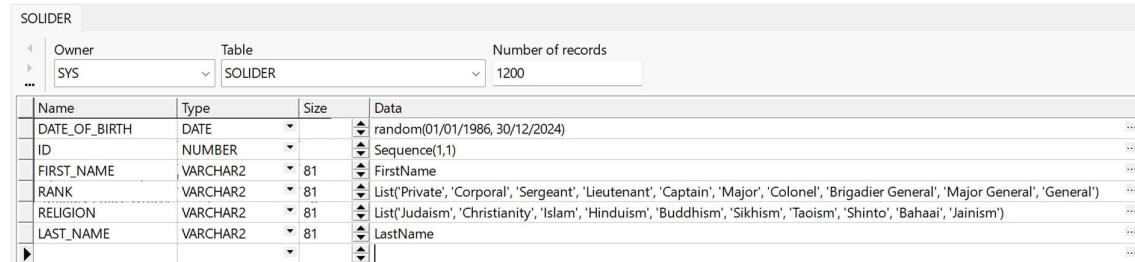
**OPERATION:**

	OPERATION_DATE	LOCATION	OPERATION_ID	COMMANDER_ID	MEDIC_ID	TEAM_NUMBER
1	30/09/1981	▼ Base B	...	1	3	3
2	17/12/1992	▼ Base C	...	2	4	4
3	24/10/1995	▼ Base B	...	3	5	5
4	16/09/1995	▼ Base E	...	4	6	6
5	17/03/1993	▼ Base B	...	5	7	7
6	11/01/1987	▼ Base E	...	6	8	8
7	18/11/1985	▼ Base A	...	7	9	9
8	29/08/1992	▼ Base C	...	8	10	10
9	30/05/2000	▼ Base B	...	9	11	11
10	19/11/1992	▼ Base B	...	10	2	2

## שיטה 3 – data generator (PLSQL developer)

בשיטת זו אנו משתמשים ב-**data generator** המובנה של PLSQL developer

Solider:



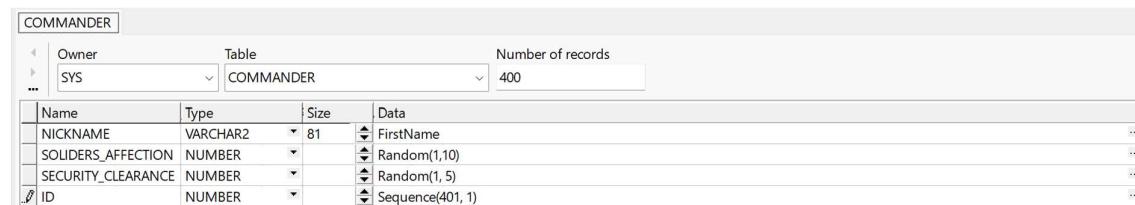
The screenshot shows the Oracle SQL Developer Data Generator interface for the SOLIDER table. At the top, it displays the table name 'SOLIDER', owner 'SYS', and number of records '1200'. Below this is a detailed view of the table structure and data generation logic:

Name	Type	Size	Data
DATE_OF_BIRTH	DATE		random(01/01/1986, 30/12/2024)
ID	NUMBER		Sequence(1,1)
FIRST_NAME	VARCHAR2	81	FirstName
RANK	VARCHAR2	81	List('Private', 'Corporal', 'Sergeant', 'Lieutenant', 'Captain', 'Major', 'Colonel', 'Brigadier General', 'Major General', 'General')
RELIGION	VARCHAR2	81	List('Judaism', 'Christianity', 'Islam', 'Hinduism', 'Buddhism', 'Sikhism', 'Taoism', 'Shinto', 'Bahaai', 'Jainism')
LAST_NAME	VARCHAR2	81	LastName

Below the table structure is a preview of 14 generated rows:

	DATE_OF_BIRTH	ID	FIRST_NAME	RANK	RELIGION	LAST_NAME
1	07/09/1993	1	Rachel	General	Shinto	Hewett
2	17/10/2007	2	Amanda	Major	Bahaai	Salonga
3	11/03/2008	3	Petula	Private	Shinto	Shawn
4	11/08/2006	4	Ben	Captain	Bahaai	Lucien
5	25/10/1991	5	Ronnie	Major	Islam	McConaughey
6	06/05/2018	6	Juan	Private	Islam	Morton
7	25/01/1988	7	Julianna	Captain	Hinduism	Bacon
8	30/10/2001	8	Scarlett	Captain	Sikhism	Guest
9	15/03/2000	9	Ryan	Corporal	Shinto	Hutton
10	12/04/1993	10	Juliette	General	Buddhism	Griffin
11	16/11/2006	11	Hugh	Brigadier General	Judaism	Kretschmann
12	26/04/2015	12	Cheryl	Colonel	Sikhism	Shelton
13	20/01/2009	13	Marty	Colonel	Islam	Andrews
14	21/01/2024	14	Terri	Colonel	Bahaai	Faria

Commander:



The screenshot shows the Oracle SQL Developer Data Generator interface for the COMMANDER table. At the top, it displays the table name 'COMMANDER', owner 'SYS', and number of records '400'. Below this is a detailed view of the table structure and data generation logic:

Name	Type	Size	Data
NICKNAME	VARCHAR2	81	FirstName
SOLDERS_AFFECTION	NUMBER		Random(1,10)
SECURITY_CLEARANCE	NUMBER		Random(1, 5)
ID	NUMBER		Sequence(401, 1)

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אBITS' שchor

	NICKNAME	SOLDERS_AFFECTION	SECURITY_CLEARANCE	ID
1	Barry	8	3	401
2	Annette	9	2	402
3	Tobey	3	4	403
4	Rufus	5	4	404
5	Hugh	2	1	405
6	Ethan	5	3	406
7	Helen	7	1	407
8	Kristin	7	2	408
9	Lennie	10	2	409
10	Emmylou	3	1	410
11	Danny	4	3	411
12	Ray	2	3	412
13	Franz	7	2	413
14	Rich	4	3	414

Combat medic:

COMBAT\_MEDIC

Owner	Table	Number of records
SYS	COMBAT_MEDIC	400
<b>Name</b> <b>Type</b> <b>Size</b> <b>Data</b>		
QUALIFICATION VARCHAR2 81 List('MD', 'DO', 'RN', 'NP', 'PA', 'DDS', 'DMD', 'PharmD', 'DVM', 'OD')		
IN_TRAINING NUMBER Random(0, 1)		
ID NUMBER Sequence(1, 1)		

	QUALIFICATION	IN_TRAINING	ID
1	DMD	0	1
2	DMD	0	2
3	PA	1	3
4	DDS	1	4
5	RN	1	5
6	PA	1	6
7	PA	1	7
8	NP	1	8
9	DO	1	9
10	DO	1	10
11	PharmD	1	11
12	PA	1	12
13	DDS	0	13
14	DO	0	14

Military rabbi:

MILITARY\_RABBI

Owner	Table	Number of records
SYS	MILITARY_RABBI	400
<b>Name</b> <b>Type</b> <b>Size</b> <b>Data</b>		
CERTIFIED_RABBI NUMBER Random(0, 1)		
PAYYTAN NUMBER Random(0, 1)		
SECTOR VARCHAR2 81 List('Religious-Zionism', 'Haredi-Litai', 'Haredi-Hasidic')		
ETHNICITY VARCHAR2 81 List('Ashkenazi', 'Iraqi', 'Buchari', 'Teman', 'Sphard')		
PREACHER NUMBER Random(0, 1)		
ID NUMBER Sequence(801, 1)		

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	CERTIFIED_RABBI	PAYYTAN	SECTOR	ETHNICITY	PREACHER	ID
1	1	1	Haredi-Hasidic	Buchari	0	801
2	1	0	Haredi-Hasidic	Temani	1	802
3	1	0	Religious-Zionism	Ashkenazi	0	803
4	0	0	Haredi-Hasidic	Temani	0	804
5	1	0	Haredi-Hasidic	Sphard	0	805
6	1	1	Haredi-Hasidic	Buchari	0	806
7	0	1	Haredi-Hasidic	Sphard	1	807
8	0	1	Haredi-Hasidic	Temani	1	808
9	1	1	Haredi-Litai	Buchari	1	809
10	0	1	Haredi-Litai	Iraqi	1	810
11	1	1	Haredi-Litai	Sphard	1	811
12	1	1	Haredi-Litai	Sphard	1	812
13	1	1	Haredi-Litai	Temani	1	813
14	0	1	Haredi-Litai	Buchari	0	814

Team:

TEAM			
Owner	Table	Number of records	
SYS	TEAM	400	
	Name	Type	Size
	TEAM_NUMBER	NUMBER	Sequence(1, 1)
	NAME	VARCHAR2	81
	RELIGIOUS	NUMBER	Random(0, 1)
	COMMANDER_ID	NUMBER	Sequence(401,1)

	TEAM_NUMBER	NAME	RELIGIOUS	COMMANDER_ID
1	1	Zaandam	1	401
2	2	Salem	0	402
3	3	Akita	1	403
4	4	Golden	1	404
5	5	Colorado Springs	0	405
6	6	Herne	1	406
7	7	Bielefeld	0	407
8	8	St Jean de Soudain	1	408
9	9	Bristol	1	409
10	10	Bergara	1	410
11	11	Tucson	1	411
12	12	Antwerpen	1	412
13	13	Rorschach	0	413
14	14	Double Oak	0	414

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אבי' שחר

Operation:

**OPERATION**

Name	Type	Size	Data
OPERATION_DATE	DATE	81	random(01/01/1986, 30/12/2024)
LOCATION	VARCHAR2	81	Country
OPERATION_ID	NUMBER	...	Random(1, 99999999)
COMMANDER_ID	NUMBER	...	Sequence(401,1)
MEDIC_ID	NUMBER	...	Sequence(1, 1)
TEAM_NUMBER	NUMBER	...	Sequence(1, 1)

	OPERATION_DATE	LOCATION	OPERATION_ID	COMMANDER_ID	MEDIC_ID	TEAM_NUMBER
1	24/04/1988	USA	35188343	401	1	1
2	16/03/2005	USA	731001008	402	2	2
3	17/09/1993	Canada	605736777	403	3	3
4	26/12/2010	USA	534349540	404	4	4
5	20/02/2010	Belgium	86975604	405	5	5
6	01/10/2012	USA	545678862	406	6	6
7	13/07/1994	Italy	483903501	407	7	7
8	18/08/2016	USA	900754043	408	8	8
9	10/05/2003	United Kingdom	683925872	409	9	9
10	29/05/2001	Norway	690369426	410	10	10
11	05/12/2011	USA	961505079	411	11	11
12	26/03/2015	Germany	931749871	412	12	12
13	21/02/2003	Canada	691187826	413	13	13
14	28/11/1991	Taiwan	358042001	414	14	14

Soldier\_in:

**SOLDIER\_IN**

Name	Type	Size	Data
RESPONSIBILITY	VARCHAR2	81	List("Infantry Soldier", "Sniper", "Combat Engineer", "Special Forces Operator", "Armored Crewman", "Artillery Gunner", "Intelligence Officer", "Medical Specialist", "Logistics Support", "Communication Specialist", "Cybersecurity Expert", "Forward Observer", "Military Police Officer", "Tactical Navigator", "Unit Leader", "Team Commander")
TEAM_NUMBER	NUMBER	...	Sequence(1,1)
ID	NUMBER	...	Sequence(2,2)

	RESPONSIBILITY	TEAM_NUMBER	ID
1	"Forward Observer"	1	2
2	"Forward Observer"	2	4
3	"Combat Engineer"	3	6
4	"Sniper"	4	8
5	"Forward Observer"	5	10
6	Infantry Soldier	6	12
7	"Military Police Officer"	7	14
8	"Sniper"	8	16
9	"Combat Engineer"	9	18
10	Infantry Soldier	10	20
11	Infantry Soldier	11	22
12	"Forward Observer"	12	24
13	"Forward Observer"	13	26
14	Infantry Soldier	14	28



## גיבוי נתונים

The screenshot shows the 'Database Export' dialog in Oracle SQL Developer. The 'Tables' tab is selected, displaying a list of tables from the 'MILITARY\_RABBI' schema. The table 'MILITARY\_RABBI' is highlighted with a blue selection bar. Below the table list, the 'User' dropdown is set to '<CURRENT USER>'. The 'Oracle Export' tab is selected. In the export options section, several checkboxes are checked: 'Create tables', 'Delete records', 'Disable triggers', 'Disable foreign key constraints', 'Include storage', and 'Include privileges'. The 'Commit every 100' dropdown is set to 'records (0 = never)'. The 'Output file' field contains the path 'C:\Users\Yoav\Desktop\minip basnat\backup - 26\_05\_2024\aw.sql'. At the bottom right are 'Export' and 'Cancel' buttons.

Name	Type	Compiled
METAXSL\$	TABLE	28/09/2021 4:32:46
METAXLPPARAM\$	TABLE	28/09/2021 4:32:47
METAXLPPARAMDESC\$	TABLE	28/09/2021 4:32:47
METHODS\$	TABLE	28/09/2021 4:32:28
MIGRATE\$	TABLE	28/09/2021 4:31:28
<b>MILITARY_RABBI</b>	TABLE	<b>26/05/2024 22:19:03</b>
MLOG_REFCOL\$	TABLE	28/09/2021 4:32:32
MODEL\$	TABLE	28/09/2021 4:32:47
MODELALGS\$	TABLE	28/09/2021 4:36:39
MODELATT\$	TABLE	28/09/2021 4:32:48
MODELGTTRAWS\$	TABLE	28/09/2021 4:32:48
MODELPART\$	TABLE	28/09/2021 4:32:48
MODELPARTCOL\$	TABLE	28/09/2021 4:32:48
MODELSETS\$	TABLE	28/09/2021 4:32:48
MODELTABS\$	TABLE	28/09/2021 4:32:48
MODELXFM\$	TABLE	28/09/2021 4:32:48
MON_MODS\$	TABLE	28/09/2021 4:32:25
MON_MODS_ALL\$	TABLE	28/09/2021 4:32:25
MVREFS_CHANGE_STATS	TABLE	28/09/2021 4:39:57
MVREFS_DML_STATS	TABLE	28/09/2021 4:39:57

The backup can be found in the GitHub of the project.

## שחזר נתונים מגיבוי

The screenshot shows the Oracle SQL Developer interface with the 'Import' tab selected. The 'Import file' dropdown menu is open, showing the path 'C:\Users\Yoav\Desktop\minip\_basnat\backup - 26\_05\_2024\aw.sql'. The 'Import' button is located at the bottom right of the import dialog.

ובמבחן התוצאה:

```
-- Select all records from the team table
SELECT * FROM team;

-- Select all records from the military_Rabbi table
SELECT * FROM military_Rabbi;

-- Select all records from the combat_medic table
SELECT * FROM combat_medic;

-- Select all records from the operation table
SELECT * FROM operation;

-- Select all records from the solider_in table
SELECT * FROM solider_in;
```

The screenshot shows the results of the executed SQL queries in the Oracle SQL Developer interface. The results are displayed in a grid format with three columns: 'RESPONSIBILITY', 'TEAM\_NUMBER', and 'ID'. The data includes various soldier roles and their corresponding team numbers and IDs.

	RESPONSIBILITY	TEAM_NUMBER	ID
►	1 "Intelligence Analyst"	...	223 446
	2 "Communications Specialist"	...	224 448
	3 "Forward Observer"	...	225 450
	4 "Artillery Gunner"	...	226 452
	5 Infantry Soldier	...	227 454
	6 "Communications Specialist"	...	228 456
	7 Infantry Soldier	...	229 458
	8 "Special Forces Operator"	...	230 460
	9 "Sniper"	...	231 462
	10 Infantry Soldier	...	232 464
	11 "Sniper"	...	233 466
	12 "Communications Specialist"	...	234 468
	13 Infantry Soldier	...	235 470