

**מיני פרויקט בבסיסי נתונים תשפ"ד**

**ספריה**

**ניהול מלאי הספרים**

**אהובה ראשית אביחי ואביטל הורוביץ**

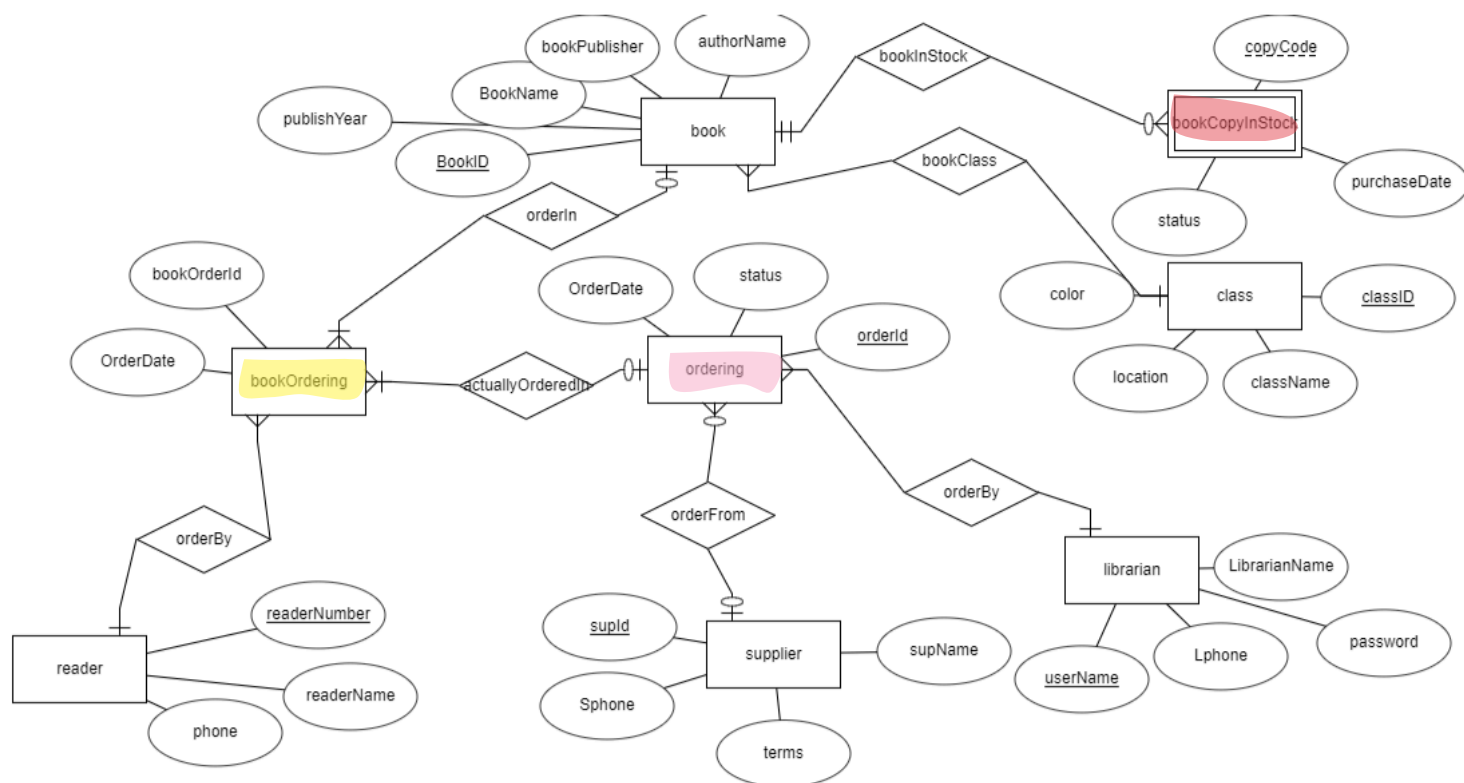
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# מבוא

המערכת של ניהול מלאי הספרייה, תאפשר לקבל מידע מפורט על כל ספר שקיים בספרייה, וכן תאפשר לקוראים להזמין ספרים חדשים שעדיין לא קיימים בספרייה, או עותק נוסף מספרים קיימים. זאת ע"י יצירת הזמנת ספר. ספרנים יוכלו לשלוח הזמנה של כמה ספרים לספקים שונים, לפי הזמנות הספר מהקוראים הקיימות במערכת.

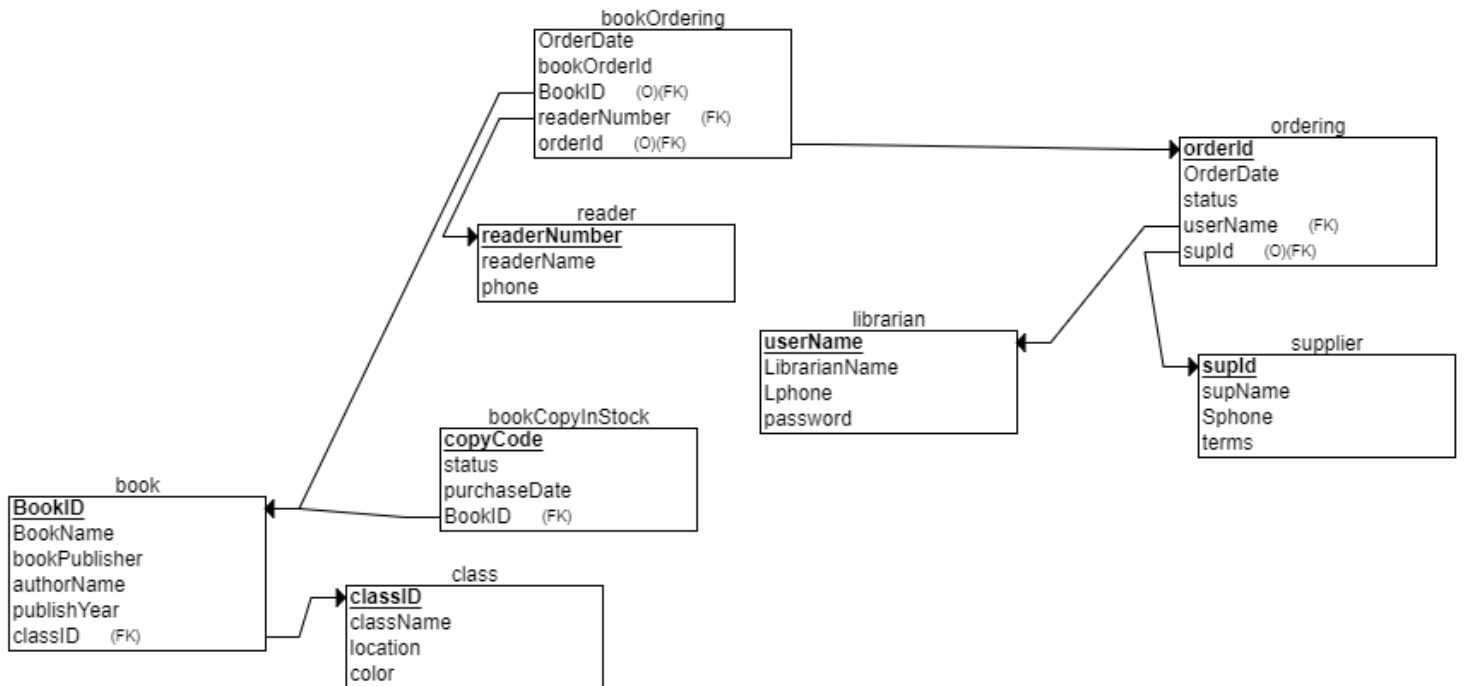
## ERD



הסבר על הERD:

הישות המודגשת בצהוב היא ישות הזמנת ספר, אותה יכול לפתוח כל קורא הרשום בספרייה, לגבי כל ספר שהוא. הזמנת ספר בודדת נפתחת ע"י קורא אחד בדיוק, ומוזמן בה ספר אחד בדיוק. כמה הזמנות ספר מצטרפות יחד לישות הורודה - הזמנה בפועל. זאת ההזמנה שנשלחת יחד עם רשימת הספרים שבה לספק ספיציפי (אחד בדיוק) וספרן שיש לו שם משתמש במערכת ההזמנות הוא זה שמבצע אותה. לישות ספא מחוברת ישות חלשה שמייצגת עותק של ספר בספרייה. עותק של ספר חייב להיות מקושר לספר ספיציפי, ולכן אין לו קיום בפני עצמו אלא הוא ישות חלשה המחוברת לספר.

# DSD



# create table

```
CREATE TABLE reader
(
  readerName varchar2(30) NOT NULL,
  readerNumber INT NOT NULL,
  phone varchar2(11),
  PRIMARY KEY (readerNumber)
);
```

```
CREATE TABLE librarian
(
  LibrarianName varchar2(30) NOT NULL,
  Lphone varchar2(11),
  LuserName varchar2(20) NOT NULL,
  password varchar2(20) NOT NULL,
  PRIMARY KEY (LuserName)
);
```

```
CREATE TABLE supplier
(
  supName varchar2(80) NOT NULL,
  supId INT NOT NULL,
  SupPhone varchar2(11),
  terms varchar2(380),
  PRIMARY KEY (supId)
);
```

```
CREATE TABLE bookClass
(
  classID INT NOT NULL,
  className varchar2(20) UNIQUE,
  location varchar2(30),
  color varchar2(10),
  PRIMARY KEY (classID)
);
```

```
CREATE TABLE book
(
  BookName varchar2(120) NOT NULL,
  bookPublisher varchar2(100),
  authorName varchar2(30),
  publishYear INT,
  BookID INT NOT NULL,
  classID INT,
  PRIMARY KEY (BookID),
  FOREIGN KEY (classID) REFERENCES
bookClass(classID)
);
```

```
CREATE TABLE bookCopyInStock
(
  copyCode INT NOT NULL,
  status varchar2(20),
  purchaseDate Date,
  BookID INT NOT NULL,
  PRIMARY KEY (copyCode),
  FOREIGN KEY (BookID) REFERENCES
book(BookID)
);
```

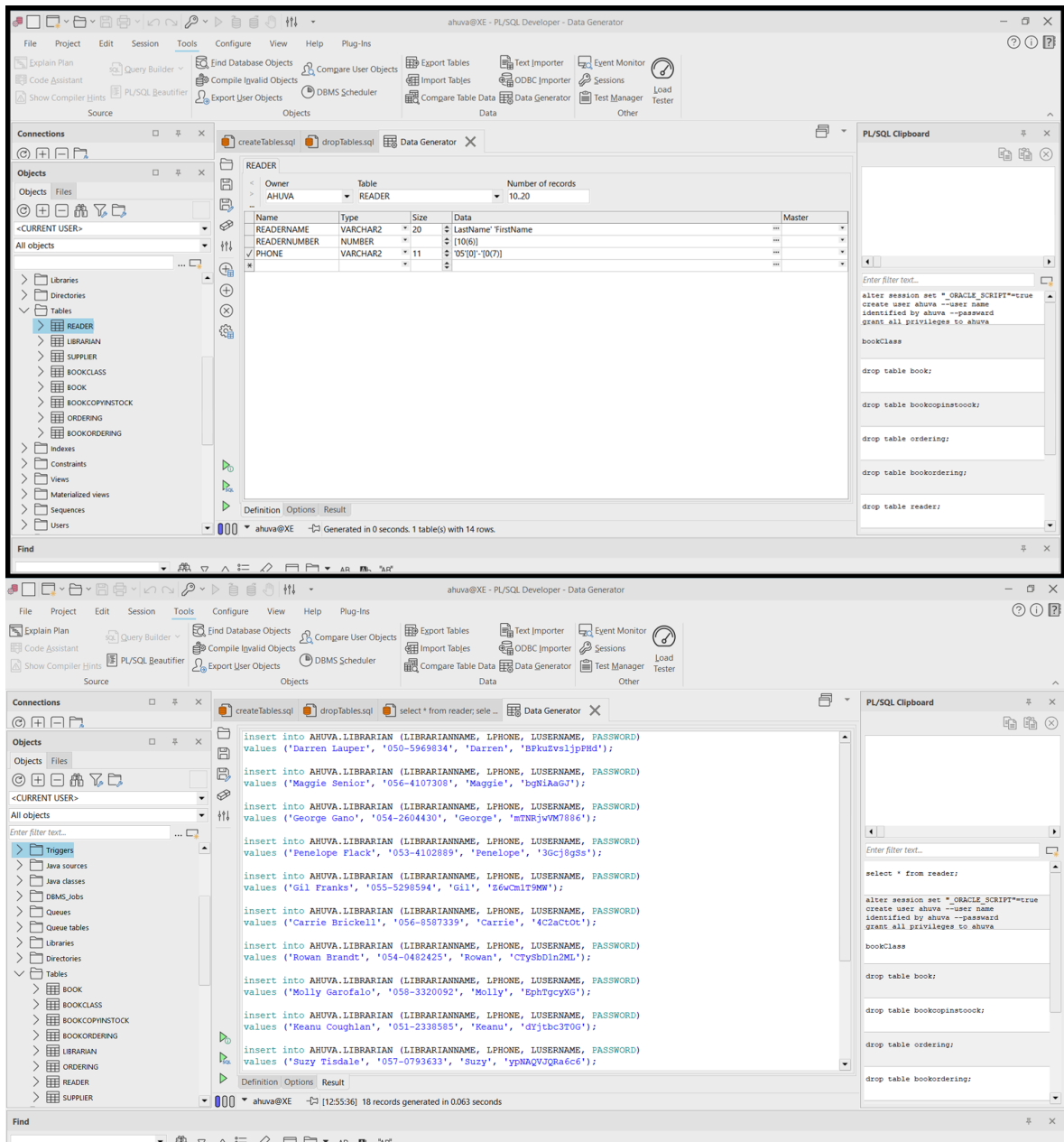
```
CREATE TABLE ordering
(
  orderDate Date NOT NULL,
  status varchar2(20) NOT NULL,
  orderId INT NOT NULL,
  LuserName varchar(20) NOT NULL,
  supId INT,
  PRIMARY KEY (orderId),
  FOREIGN KEY (LuserName) REFERENCES
librarian(LuserName),
  FOREIGN KEY (supId) REFERENCES
supplier(supId)
);
```

```
CREATE TABLE bookOrdering
(
  readerOrderDate Date NOT NULL,
  readerOrderId INT NOT NULL,
  BookID INT NOT NULL,
  readerNumber INT,
  orderId INT,
  Primary KEY (readerOrderId),
  FOREIGN KEY (BookID) REFERENCES
book(BookID),
  FOREIGN KEY (readerNumber) REFERENCES
reader(readerNumber),
  FOREIGN KEY (orderId) REFERENCES
ordering(orderId)
);
```

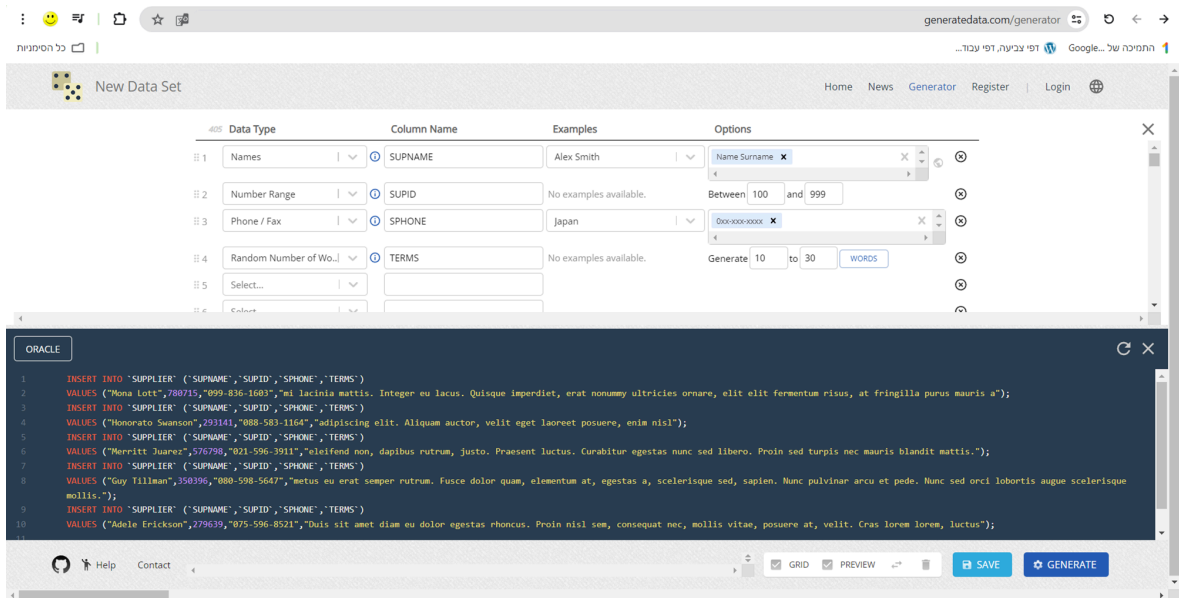
# desc

Columns of BOOKCOPYINSTOCK					
Name	Type	Nullable	Default	Comments	
1 COPYCODE	INTEGER				
2 STATUS	VARCHAR2(20)	Y			
3 PURCHASEDATE	DATE	Y			
4 BOOKID	INTEGER				
Columns of BOOK					
Name	Type	Nullable	Default	Comments	
1 BOOKNAME	VARCHAR2(30)				
2 BOOKPUBLISHER	VARCHAR2(30)	Y			
3 AUTHORNAME	VARCHAR2(30)	Y			
4 PUBLISHYEAR	INTEGER	Y			
5 BOOKID	INTEGER				
6 CLASSID	INTEGER	Y			
Columns of BOOKORDERING					
Name	Type	Nullable	Default	Comments	
1 READERORDERDATE	DATE				
2 READERORDERID	INTEGER				
3 BOOKID	INTEGER				
4 READERNUMBER	INTEGER	Y			
5 ORDERID	INTEGER	Y			
Columns of BOOKCLASS					
Name	Type	Nullable	Default	Comments	
1 CLASSID	INTEGER				
2 CLASSNAME	VARCHAR2(20)	Y			
3 LOCATIONC	VARCHAR2(30)	Y			
4 COLOR	VARCHAR2(10)	Y			
Columns of LIBRARIAN					
Name	Type	Nullable	Default	Comments	
1 LIBRARIANNAME	VARCHAR2(20)				
2 LPHONE	VARCHAR2(11)	Y			
3 LUSERNAME	VARCHAR2(20)				
4 LPASSWORD	VARCHAR2(20)				
Columns of ORDERING					
Name	Type	Nullable	Default	Comments	
1 ORDERDATE	DATE				
2 STATUS	VARCHAR2(20)				
3 ORDERID	INTEGER				
4 LUSERNAME	VARCHAR2(20)				
5 SUPID	INTEGER	Y			
Columns of SUPPLIER					
Name	Type	Nullable	Default	Comments	
1 SUPNAME	VARCHAR2(20)				
2 SUPID	INTEGER				
3 SPHONE	VARCHAR2(11)	Y			
4 TERMS	VARCHAR2(80)	Y			
Columns of READER					
Name	Type	Nullable	Default	Comments	
1 READERNAME	VARCHAR2(20)				
2 READERNUMBER	INTEGER				
3 PHONE	VARCHAR2(11)	Y			

# data generator



# generated data



# mockaroo

Field Name      Type      Options

BookID	Number	min: 10000000 max: 99999999 decimals: 0 blank: 0 %
BookName	Movie Title	blank: 0 %
bookPublisher	Custom List	Penguin Random House, HarperCollins, Simon & Schuster, Hachette Book Grou random blank: 0 %
authorName	Full Name	blank: 0 %
publishYear	Car Model Year	blank: 0 %
classID	Number	min: 1 max: 24 decimals: 0 blank: 0 %

+ ADD ANOTHER FIELD      GENERATE FIELDS USING AI...

# Rows: 1000      Format: SQL      Table Name: book      ☐ include CREATE TABLE

Preview

```

insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (66521507, 'Terror Beneath the Sea, The (Kaitei daisensō)', 'Penguin Random House', 'Stephen King', 1999, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (20028758, 'Woochi: The Demon Slayer', 'Vintage Books', 'Stephen King', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (65376413, 'Crash Dive', 'Puffin Books', 'Gizela Fawke', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (90621756, 'Reggie Watts: Why Shit So Crazy?', 'Bloomsbury Publishing', 'Reggie Watts', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (54622110, 'Comedy, The', 'Random House', 'Jobi Bisphan', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (34505373, 'Class of 1984', 'Simon & Schuster', 'Chandal', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (36387861, 'Sanatorium', 'Penguin Random House', 'Brinn', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (50622005, 'Irreconcilable Differences', 'Candlewick Press', 'Brinn', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (85164999, 'Good Girl, The', 'Bloomsbury Publishing', 'L', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (69788544, 'Darkman II: Return of Durant, The', 'Straus', 'L', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (45664961, 'Larry Crowne', 'Houghton Mifflin Harcourt', 'L', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (88805356, 'Mad Max Beyond Thunderdome', 'Macmillan Publ', 'L', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (19959141, 'Berlin: Symphony of a Great City (Berlin: Di', 'L', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (54598056, 'Roommate, The', 'Macmillan Publishers', 'Bri', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (91699639, 'Polish Wedding', 'Puffin Books', 'Ruddy Lowr', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (47574409, 'Going Berserk', 'Vintage Books', 'Leopold Im', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (35782703, 'Boarding Gate', 'Oxford University Press', 'I', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (10111684, 'Back in Business', 'Abrams Books', 'Werte Dut', 2002, 1);
insert into book (BookID, BookName, bookPublisher, authorName, publishYear, classID) values (43713102, 'Simple Twist of Fate, A', 'Scholastic Corpora', 2002, 1);

```

showing first 100 rows      # Rows: 1000      GENERATE DATA      CLOSE

# excel (import file)

bookClass.xlsx

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Class	ClassName	Location	Color									
2	1	Children	Floor 1 Column 2	Maroon									
3	2	Beautiful literature	Floor 2 Column 9	Purple									
4	3	Science fiction	Floor 2 Column 4	Magenta									
5	4	Game	Floor 1 Column 6	Yellow									
6	5	Fantasies	Floor 2 Column 5	Orange									
7	6	Youth	Floor 2 Column 3	Green									
8	7	Adults	Floor 1 Column 11	Teal									
9	8	Russian	Floor 3 Column 4	Blue									
10	9	Audiobooks	Floor 1 Column 7	Brown									
11	11	Children's English	Floor 2 Column 7	Pink									
12	12	Adult English	Floor 2 Column 8	Gray									
13	13	Poetry	Floor 3 Column 3	Black									
14	14	Digital book	Floor 1 Column 8	White									
15	15	French	Floor 3 Column 3	Silver									
16	16	Voltage	Floor 2 Column 2	Gold									
17	17	Comics	Floor 1 Column 4	Cyan									
18	18	Holocaust	Floor 3 Column 4	Lime									
19	19	Legacy	Floor 1 Column 10	Olive									
20	20	Biography	Floor 1 Column 9	Chocolate									
21	21	Judaism	Floor 1 Column 5	Coral									

Sheet 1



## יצירת הגיבוי

