

2013

ניהול ספריה



אסתי ליברמן
רבקי רוזנפלד
18/02/2013



תיאור ניהול ספריה

טרום פתיחת הספרייה:

בשלב הראשון בניהול הספרייה המערכת מאפשרת הכנסת ספרים לספרייה וכן במהלך ניהול הספרייה תתאפשר הוספת ספרים חדשים.

בכל הכנסת ספר חובה להזין את שם הקטגוריה אליה הוא שייך.

פתיחת הספרייה:

בפתיחת הספרייה המערכת תרשום משתמשים לספרייה, כל משתמש הנרשם לספריה נרשם לתקופה.

כאשר פגה תקופת המנוי, המשתמש חייב להחזיר את הספרים או לחילופין להאריך את תקופת המנוי שלו.

התנהלות שותפת של הספרייה:

1. תינתן אפשרות של השאלה והחזרת ספר עבור משתמש.

2. המערכת תיתן מענה לחיפוש:

- חיפוש ספר ע"פ מחבר.
- חיפוש ספר ע"פ קטגוריה.
- חיפוש משתמש ע"פ שם.
- חיפוש כמה ספרים יש מכל קטגוריה.
- חיפוש כמה פעמים לוו כל ספר.
- חיפוש הספרים המושאלים עכשיו.
- חיפוש ספרים שהושאלו, לא הוחזרו ועבר תאריך ההחזרה שלהם.
- חיפוש הספרים שהושאלו וכן כמה פעמים לוו כל ספר.

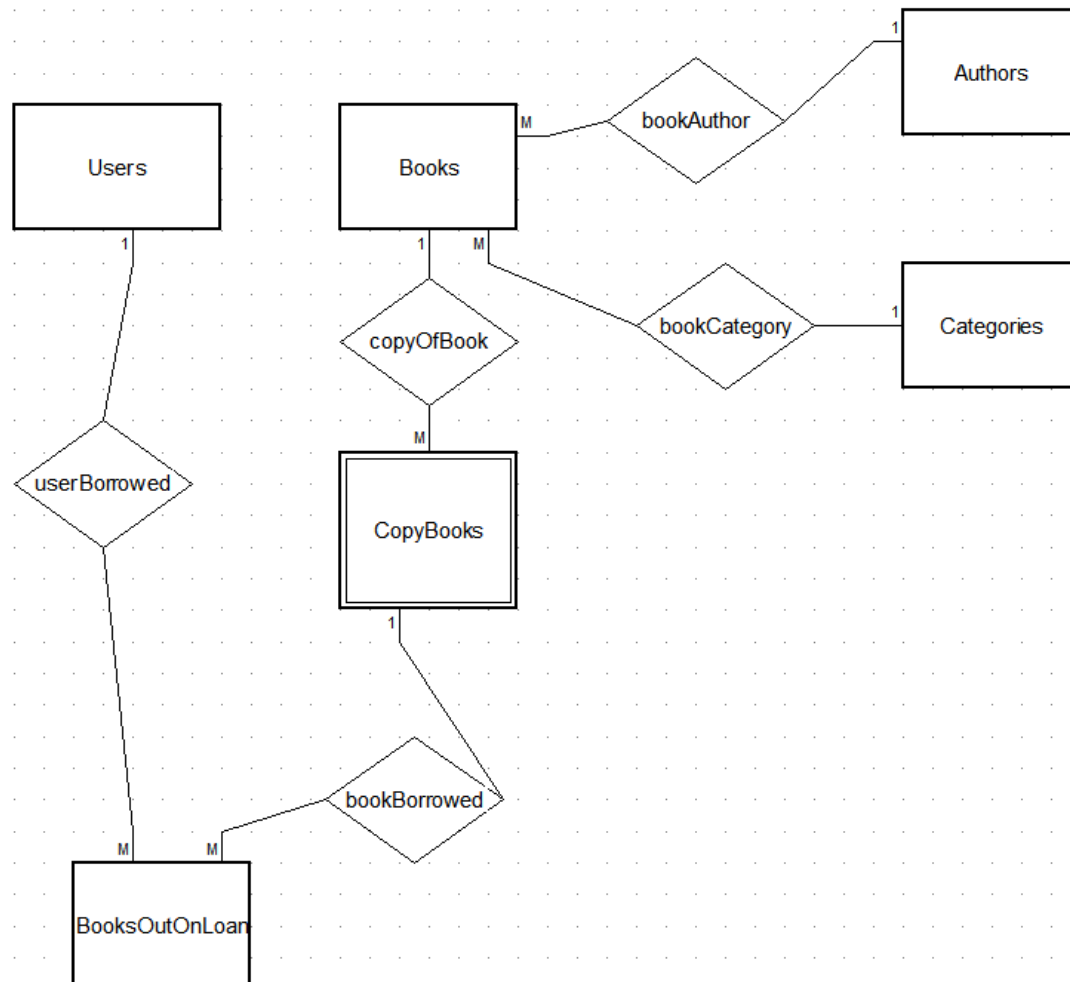
3. הוצאת דוחות:

- רשימת משתמשים שעבר להם זמן החזרת הספר ואינם החזירו.
- רשימת המשתמשים שבחודש הקרוב תפוג להם תקופת המנוי.
- הוצאת דוח המכיל רשימת משתמשים
- שמות הספרים ושמות המחברים.
- הדפסת דוח משתמש בספרייה ואת פרטי הספרים שהשאל בטווח תאריכים

4. הדפסת מכתב מעוצב למשתמש שמאחר בהחזרת ספרים.

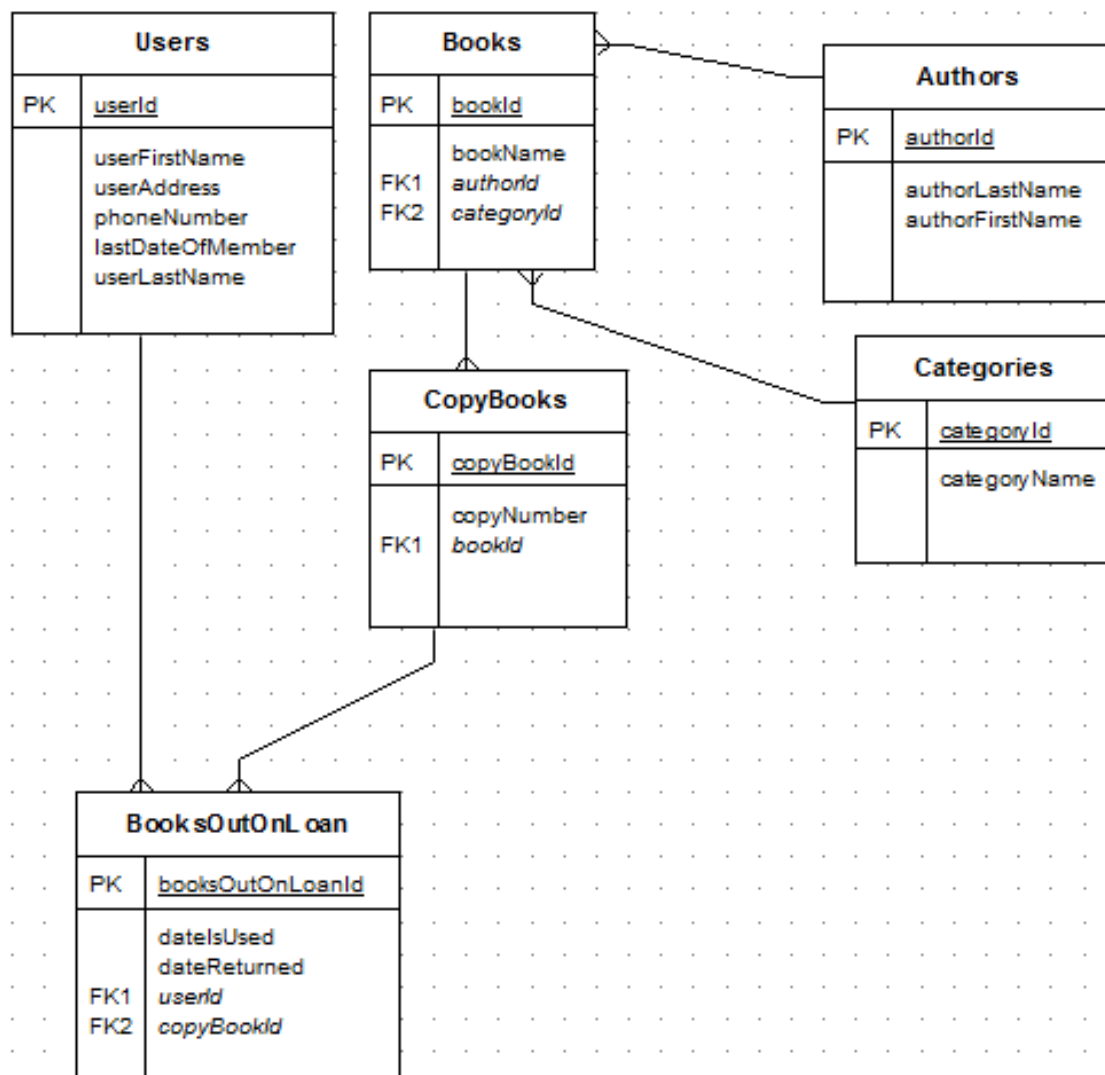


תרשים ERD





תרשים DSD





הסכמה הלוגית

Users			
Column	Datatype	Nullable	Comment
<u>userId</u>	integer	<input type="checkbox"/>	
userFirstName	char(100)	<input type="checkbox"/>	
userAddress	char(100)	<input type="checkbox"/>	
phoneNumber	char(10)	<input type="checkbox"/>	
lastDateOfMember	date(1)	<input type="checkbox"/>	
userLastName	char(100)	<input type="checkbox"/>	
Authors			
Column	Datatype	Nullable	Comment
<u>authorId</u>	integer	<input type="checkbox"/>	
authorLastName	char(100)	<input type="checkbox"/>	
authorFirstName	char(100)	<input type="checkbox"/>	
Categories			
Column	Datatype	Nullable	Comment
<u>categoryId</u>	integer	<input type="checkbox"/>	
categoryName	char(100)	<input type="checkbox"/>	
BooksOutOnLoan			
Column	Datatype	Nullable	Comment
Books			
Column	Datatype	Nullable	Comment
<u>bookId</u>	integer	<input type="checkbox"/>	
bookName	char(100)	<input type="checkbox"/>	
CopyBooks			
Column	Datatype	Nullable	Comment
copyNumber	integer	<input type="checkbox"/>	
<u>copyBookId</u>	integer	<input type="checkbox"/>	

נירמול הסכמה הלוגית ל- 3NF

בכל הטבלאות כל השדות תלויים רק במפתח, כמו כן אין תלויות בין המפתחות ולכן הסכמה עומדת ב-3NF.



יצירת הטבלאות

יצירת טבלת Users

```
-- Create Table      : 'Users'
-- userId             :
-- userFirstName      :
-- userAddress        :
-- phoneNumber        :
-- lastDateOfMember   :
-- userLastName       :
--
CREATE TABLE Users (
    userId          NUMBER(38) NOT NULL,
    userFirstName   CHAR(100) NOT NULL,
    userAddress     CHAR(100) NOT NULL,
    phoneNumber     CHAR(10) NOT NULL,
    lastDateOfMember DATE NOT NULL,
    userLastName    CHAR(100) NOT NULL,
    CONSTRAINT pk_Users PRIMARY KEY (userId))
/
```

יצירת טבלת Authors

```
-- Create Table      : 'Authors'
-- authorId           :
-- authorLastName     :
-- authorFirstName    :
--
CREATE TABLE Authors (
    authorId        NUMBER(38) NOT NULL,
    authorLastName  CHAR(100) NOT NULL,
    authorFirstName CHAR(100) NOT NULL,
    CONSTRAINT pk_Authors PRIMARY KEY (authorId))
/
```

יצירת טבלת Categories

```
--
-- Create Table      : 'Categories'
-- categoryId         :
-- categoryName       :
--
CREATE TABLE Categories (
    categoryId      NUMBER(38) NOT NULL,
    categoryName    CHAR(100) NOT NULL,
    CONSTRAINT pk_Categories PRIMARY KEY (categoryId))
/
```

יצירת טבלת Books

```
--
-- Create Table      : 'Books'
-- bookId            :
-- bookName          :
-- authorId          : (references Authors.authorId)
-- categoryId         : (references Categories.categoryId)
--
CREATE TABLE Books (
```



```
bookId          NUMBER(38) NOT NULL,
bookName        CHAR(100) NOT NULL,
authorId        NUMBER(38) NOT NULL,
categoryId      NUMBER(38) NOT NULL,
CONSTRAINT pk_Books PRIMARY KEY (bookId),
CONSTRAINT fk_Books FOREIGN KEY (authorId)
REFERENCES Authors (authorId)
ON DELETE CASCADE,
CONSTRAINT fk_Books2 FOREIGN KEY (categoryId)
REFERENCES Categories (categoryId)
ON DELETE CASCADE)
/
```

יצירת טבלת *CopyBooks*

```
--
-- Create Table      : 'CopyBooks'
-- copyBookId       :
-- copyNumber       :
-- bookId           : (references Books.bookId)
--
CREATE TABLE CopyBooks (
    copyBookId      NUMBER(38) NOT NULL,
    copyNumber      NUMBER(38) NOT NULL,
    bookId          NUMBER(38),
    CONSTRAINT pk_CopyBooks PRIMARY KEY (copyBookId),
    CONSTRAINT fk_CopyBooks FOREIGN KEY (bookId)
    REFERENCES Books (bookId))
/
```

יצירת טבלת *BooksOutOnLoan*

```
--
-- Create Table      : 'BooksOutOnLoan'
-- dateIsUsed        :
-- dateReturned      :
-- booksOutOnLoanId  :
-- userId            : (references Users.userId)
-- copyBookId        : (references CopyBooks.copyBookId)
--
CREATE TABLE BooksOutOnLoan (
    dateIsUsed      DATE NOT NULL,
    dateReturned    DATE NOT NULL,
    booksOutOnLoanId NUMBER(38) NOT NULL,
    userId          NUMBER(38),
    copyBookId      NUMBER(38) NOT NULL,
    CONSTRAINT pk_BooksOutOnLoan PRIMARY KEY (booksOutOnLoanId),
    CONSTRAINT fk_BooksOutOnLoan FOREIGN KEY (userId)
    REFERENCES Users (userId),
    CONSTRAINT fk_BooksOutOnLoan2 FOREIGN KEY (copyBookId)
    REFERENCES CopyBooks (copyBookId))
/
```

--



יצירת הרשאות

```
GRANT ALL ON Users TO public
/
GRANT ALL ON Authors TO public
/
GRANT ALL ON Categories TO public
/
GRANT ALL ON Books TO public
/
GRANT ALL ON CopyBooks TO public
/
GRANT ALL ON BooksOutOnLoan TO public
/

exit;
```




הכנסת נתונים לטבלאות

USERS

The screenshot shows the 'Data Generator - users.gd' window. It displays the configuration for the 'USERS' table. The table has 6 columns: USERID, USERFIRSTNAME, USERADDRESS, PHONENUMBER, LASTDATEOFMEM, and USERLASTNAME. The data is generated using a sequence for USERID, and random values for the other fields. The 'Number of records' is set to 10.20. The 'Definition' tab is selected, showing the table structure and data generation options.

Name	Type	Size	Data	Master
USERID	NUMBER	38	Sequence(1, 1, 1)	xxx
USERFIRSTNAME	CHAR	100	FirstName	xxx
USERADDRESS	CHAR	100	Address1	xxx
PHONENUMBER	CHAR	10	list(02,03,050)+[10000000]	xxx
LASTDATEOFMEM	DATE		Random(01/01/2013, 01/01/2014)	xxx
USERLASTNAME	CHAR	100	LastName	xxx

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (1, 'Cate', '82 Chan Street', '0227864237', to_date('15-01-
2013', 'dd-mm-yyyy'), 'Kweller');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (2, 'Harry', '44 Hampton Road', '0269685350', to_date('10-02-
2013', 'dd-mm-yyyy'), 'Secada');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (3, 'Chloe', '555 Keaton Drive', '0502064634', to_date('02-08-
2013', 'dd-mm-yyyy'), 'Wincott');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (4, 'Joanna', '81st Street', '0503453907', to_date('03-03-
2013', 'dd-mm-yyyy'), 'Wood');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (5, 'Clive', '99 Geldof Street', '0288053043', to_date('11-10-
2013', 'dd-mm-yyyy'), 'Jenkins');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (6, 'Maceo', '62nd Street', '0266581189', to_date('07-06-
2013', 'dd-mm-yyyy'), 'Gere');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (7, 'Jet', '74 Fort McMurray Drive', '0399082701',
to_date('17-10-2013', 'dd-mm-yyyy'), 'Sisto');
```

```
insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
```



```
values (8, 'Wayman', '52 Dern Road', '0382344327', to_date('20-12-2013', 'dd-mm-yyyy'), 'Armstrong');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (9, 'Kristin', '49 Lonsdale Road', '0241152560', to_date('15-08-2013', 'dd-mm-yyyy'), 'Chan');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (10, 'Manu', '73rd Street', '0509013405', to_date('07-01-2013', 'dd-mm-yyyy'), 'Lerner');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (11, 'Trey', '75 Burt Blvd', '0505059871', to_date('20-12-2013', 'dd-mm-yyyy'), 'Holm');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (12, 'Miles', '30 Caviezel', '0220449248', to_date('22-05-2013', 'dd-mm-yyyy'), 'Patrick');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (13, 'Bridgette', '45 Moorer Road', '0213897486', to_date('15-12-2013', 'dd-mm-yyyy'), 'Capshaw');

insert into DAATORA01.USERS (USERID, USERFIRSTNAME, USERADDRESS,
PHONENUMBER, LASTDATEOFMEMBER, USERLASTNAME)
values (14, 'Kathy', '765 Ann Blvd', '0331027940', to_date('09-02-2013', 'dd-mm-yyyy'), 'Farris');

commit;
```

הצגת הנתונים:

	USERID	USERFIRSTNAME	USERADDRESS	PHONENUMBER	LASTDATEOFMEMBER	USERLASTNAME
1		Regina	35 MacNeil Drive	0509992193	03-07-2013	Wahlberg
2		Adrien	66 Riverdale Ave	0509676001	13-06-2013	Jackman
3		Maria	29 Niven Drive	0375253604	19-08-2013	Dawson
4		Joshua	36 Regensburg Road	0377180757	15-04-2013	Hiatt
5		Nik	4 Fariq Road	0504375229	27-03-2013	Dalton
6		Bridgette	91 Fogerty Street	0503228264	05-09-2013	Salt
7		Patrick	567 Morse Drive	0504052059	02-10-2013	David
8		Penelope	23 Birmingham Road	0505545663	03-07-2013	Law
9		Sammy	13 Ahmad Road	0290542171	30-01-2013	Kramer
10		Liam	74 San Jose	0358036875	06-02-2013	Whitley
11		Nickel	42nd Street	0502799536	13-10-2013	Bean

Definition Options Result

daator01@LABDB01 Generated in 0 seconds: 1 table(s) with 11 rows.



CATEGORIES

The screenshot shows the 'Data Generator - CATEGORY.gdt' window. It displays the table 'CATEGORIES' with the following structure:

Name	Type	Size	Data	Master
CATEGORYID	NUMBER	38	Sequence(1,1,1)	xxx
CATEGORYNAME	CHAR	100	Components Description	xxx

At the bottom, it indicates '17 records generated in 0 seconds'.

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (1, 'Biostar M7VKD-Pro AMD Skt A M/B VIA KT133 / 686B 266/200
Mhz FSB SD Ram ATA100(30 day D.O.A Warranty');

insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (2, 'Intel Pentium4 2.4ghz & Gigabyte 8IRX MB w/ 313M Case.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (3, 'LABTEC Internet Keyboard (Spanish Edition).');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (4, 'Intel P4 3.06 HT CPU & Intel D845PEBT2 M/B onboard Raid
and S-ATA');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (5, '128Mb SDRam PC133 Kingston');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (6, 'Combo Intel P4 3.06ghz CPU + Fan(BOx)with Hyper Threading
w/ Gigabyte 8IPE1000 Pro MotherBoard.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (7, 'Intel Pentium4 2.0ghz & Gigabyte 8ID533 MB w/ 313N Case.
W/ Free PS2 Mouse.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (8, 'Combo Intel P4 1.6Ghz retail CPU + Gigabyte GA-8ID533 M/B
+ Fan.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (9, 'US Robotics 56K V.90 PCI Modem with Voice');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (10, '6066-C10 ATX Black Mid case 350W w/ 2 Front USB; 1 Mic;
1 Headset.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (11, 'Mitsumi PS/2 Net scroll 5 button mouse');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (12, 'Gigabyte GA-6VEML skt 370 M/B (With onboard sound and
Video and Realtek Lan)');
```



```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (13, 'Mitsumi 1.44 Floppy Drive');

insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (14, 'Headphone & Mic');

insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (15, 'Combo Intel P4 2.0ghz Gigabyte GA-8LS533 m/b + fan.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (16, 'Keyboard Converter from (old) standard form to (new)
PS/2.');
```

```
insert into DAATORA01.CATEGORIES (CATEGORYID, CATEGORYNAME)
values (17, 'AMD XP 2100+ Box & Gigabyte GA-7DXE MB w/ 313M Case. W/
Free PS2 Mouse.');
```

```
commit;
```

הצגת הנתונים:

CATEGORYID	CATEGORYNAME
1	USB to Parallel Printer Cable.
2	Combo AMD XP 2400+ CPU; Gigabyte GA-7N400Pro M/B(W/DDR4
3	Combo Intel P4 2.0Ghz 478pin(box)CPU + Gigabyte GA-8IRX (DDR
4	ADS 2 Port USB Pci card
5	10/100 16 Port Switch
6	AMD XP 2100+ Box & Gigabyte GA-7DXE MB w/ 313M Case. W/ Fre
7	Intel D845WN 478Pin SDRAM retail Box
8	AOC LM520 Flat Screen (LCD) 15" Monitor
9	Intel Pentium4 1.8ghz & Gigabyte GA-8LS533 MB w/ 313N Case. W/
10	Surge protector
11	Intel P4 2.4 Ghz CPU BOX (533Mhz)
12	Intel Pentium4 1.8ghz & Gigabyte GA-8LS533 MB w/ 313N Case. W/
13	AMD XP 2000+ Box/with AMD Fan
14	White RF Wireless Keyboard Track Ball (PS/2 Connector)
15	Creative Inspire 2.1 2500 surround sound
16	313D Black Case 300W P4/AMD
17	Intel Pentium4 1.8ghz & Gigabyte GA-8LD533 MB w/ 313N Case. W/
18	Black RF Wireless Keyboard Track Ball
19	ADS Technologies Firewire External Drive.

AUTHORS

Name	Type	Size	Data	Master
AUTHORID	NUMBER	38	Sequence(1,1,1)	
AUTHORLASTNAME	CHAR	100	LastName	
AUTHORFIRSTNAME	CHAR	100	FirstName	

```
insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (1, 'Pleasence', 'Gloria');
```



```
insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (2, 'Franklin', 'Boyd');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (3, 'Aglukark', 'Rip');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (4, 'Tobolowsky', 'Garry');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (5, 'Himmelman', 'Sara');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (6, 'Lattimore', 'Brendan');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (7, 'McIntyre', 'Carrie-Anne');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (8, 'Del Toro', 'Petula');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (9, 'Mohr', 'Gordon');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (10, 'Taha', 'Vertical');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (11, 'Whitaker', 'Jay');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (12, 'Reid', 'Stewart');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (13, 'Greene', 'Wally');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (14, 'Spall', 'Terence');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (15, 'Chesnutt', 'Armin');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (16, 'Stiles', 'Anjelica');
```



```
insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (17, 'Langella', 'Rick');

insert into DAATORA01.AUTHORS (AUTHORID, AUTHORLASTNAME,
AUTHORFIRSTNAME)
values (18, 'Salonga', 'Mark');

commit;
```

הצגת הנתונים:

The screenshot shows the 'Data Generator - New' window with the 'AUTHORS' table selected. The table has three columns: AUTHORID, AUTHORLASTNAME, and AUTHORFIRSTNAME. The data is as follows:

AUTHORID	AUTHORLASTNAME	AUTHORFIRSTNAME
1	Chaplin	Andy
2	Akins	Tzi
3	Arnold	Pablo
4	Cruz	Keith
5	MacIsaac	Domingo
6	Payne	Patricia
7	Cochran	Eddie
8	Unger	Bradley
9	Rooker	Tamala
10	Elliott	Rosario
11	Edmunds	Rebeka
12	Gore	Kathy
13	Azaria	Tommy
14	Weisz	Renee
15	Dunn	Amanda
16	Cockburn	Nicole
17	Foley	Elizabeth
18	DiCaprio	Emily

The status bar at the bottom indicates: daatora01@LABDB01 Generated in 0.016 seconds: 1 table(s) with 18 rows.

BOOKS

The screenshot shows the 'Data Generator - BOOKS.gd' window with the 'BOOKS' table selected. The table has four columns: BOOKID, BOOKNAME, AUTHORID, and CATEGORYID. The data is as follows:

Name	Type	Size	Data	Master
BOOKID	NUMBER	38	Sequence(1,1,1)	...
BOOKNAME	CHAR	100	Elements Name	...
AUTHORID	NUMBER	38	list(select AUTHORID from AUTHORS)	...
CATEGORYID	NUMBER	38	list(select CATEGORYID from CATEGORIES)	...

The status bar at the bottom indicates: daatora01@LABDB01 Generated in 0.016 seconds: 1 table(s) with 10 rows.



```
insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (1, 'platinum', 12, 5);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (2, 'dysprosium', 3, 10);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (3, 'gadolinium', 10, 7);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (4, 'tantalum', 7, 10);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (5, 'scandium', 4, 10);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (6, 'sulfur', 4, 3);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (7, 'holmium', 12, 5);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (8, 'arsenic', 3, 10);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (9, 'terbium', 1, 3);

insert into DAATORA01.BOOKS (BOOKID, BOOKNAME, AUTHORID, CATEGORYID)
values (10, 'carbon', 10, 5);

commit;
```

הצגת הנתונים:

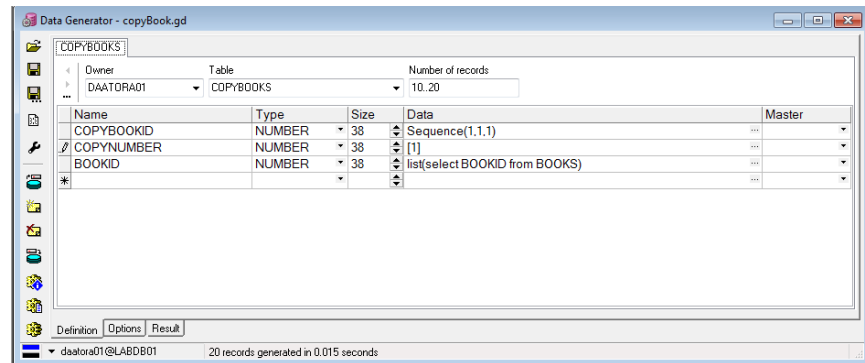
The screenshot shows a window titled "Data Generator - BOOKS.gd". It contains a table with the following data:

BOOKID	BOOKNAME	AUTHORID	CATEGORYID
1	krypton	2	5
2	chromium	3	6
3	niobium	1	1
4	silver	3	3
5	gallium	9	5
6	beryllium	11	9
7	holmium	2	9
8	krypton	11	9
9	einsteinium	8	2
10	zinc	6	10
11	niobium	4	4
12	radium	8	10
13	lutetium	10	5
14	magnesium	13	3
15	indium	3	1
16	lawrencium	9	9
17	krypton	9	9
18	zinc	1	10

At the bottom of the window, there are tabs for "Definition", "Options", and "Result". The "Result" tab is selected, showing the generated data. The status bar at the bottom indicates "daatora01@LABDB01" and "Generated in 0.016 seconds: 1 table(s)".



COPYBOOKS



```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (1, 1, 3);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (2, 2, 13);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (3, 1, 10);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (4, 2, 16);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (5, 9, 11);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (6, 9, 18);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (7, 2, 13);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (8, 9, 12);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (9, 9, 6);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (10, 4, 19);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (11, 7, 17);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (12, 9, 14);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (13, 1, 20);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (14, 5, 4);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (15, 7, 1);
```

```
insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
```




```
values (16, 7, 20);

insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (17, 4, 20);

insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (18, 5, 15);

insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (19, 7, 8);

insert into DAATORA01.COPYBOOKS (COPYBOOKID, COPYNUMBER, BOOKID)
values (20, 5, 18);

commit;
```

הצגת הנתונים:

The screenshot shows the 'Data Generator - copyBook.gd' window. It displays a table with 10 rows of data for the 'COPYBOOKS' table. The columns are 'COPYBOOKID', 'COPYNUMBER', and 'BOOKID'. The data is as follows:

COPYBOOKID	COPYNUMBER	BOOKID
1	6	14
2	1	11
3	7	9
4	1	16
5	6	7
6	6	7
7	5	8
8	1	11
9	9	12
10	4	7

The window also shows tabs for 'Definition', 'Options', and 'Result'. The 'Definition' tab is active, showing the table structure. The 'Result' tab shows the generated data. The status bar at the bottom indicates 'Generated in 0.016 second:'.

BOOKSOUTONLOAN

The screenshot shows the 'Data Generator - BOOKSOUTONLOAN.gd' window. It displays the table definition for the 'BOOKSOUTONLOAN' table. The columns are 'DATEISUSED', 'DATERETURNED', 'BOOKSOUTONLOANID', 'USERID', and 'COPYBOOKID'. The data types and sizes are as follows:

Name	Type	Size	Data	Master
DATEISUSED	DATE		Random(01/01/2013, 01/01/2014)	
DATERETURNED	DATE		Random(01/01/2014, 01/01/2014)	
BOOKSOUTONLOANID	NUMBER	38	Sequence(1,1,1)	
USERID	NUMBER	38	list(select USERID from USERS)	
COPYBOOKID	NUMBER	38	list(select COPYBOOKID from COPYBOOK)	

The window also shows tabs for 'Definition', 'Options', and 'Result'. The 'Definition' tab is active, showing the table structure. The 'Options' tab shows the number of records to generate (10, 20). The 'Result' tab shows the generated data. The status bar at the bottom indicates '15 records generated in 0.125 seconds'.

```
insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('02-02-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 1, 15);
```



```
insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('18-03-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 2, 9);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('27-05-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 3, 19);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('19-06-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 4, 11);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('22-10-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 5, 7);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('06-08-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 6, 5);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('29-08-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 7, 6);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('04-05-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 8, 19);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('31-12-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 9, 7);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('29-01-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 10, 20);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('20-11-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 11, 9);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('19-07-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 12, 12);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('03-10-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 13, 12);
```



```
insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('25-04-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 14, 18);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('24-07-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 15, 3);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('17-02-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 16, 17);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('08-10-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 17, 11);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('13-01-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 18, 12);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('21-02-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 19, 16);

insert into DAATORA01.BOOKSOUTONLOAN (DATEISUSED, DATERETURNED,
BOOKSOUTONLOANID, COPYBOOKID)
values (to_date('23-04-2013', 'dd-mm-yyyy'), to_date('01-01-2014',
'dd-mm-yyyy'), 20, 6);

commit;
```

הצגת הנתונים:

Data Generator - BOOKSOUTONLOAN.gd

DATEISUSED	DATERETURNED	BOOKSOUTONLOANID	USERID	COPYBOOKID
16-10-2013	01-01-2014	1		11
29-08-2013	01-01-2014	2		6
13-10-2013	01-01-2014	3		15
04-01-2013	01-01-2014	4		10
12-08-2013	01-01-2014	5		19
08-11-2013	01-01-2014	6		4
18-02-2013	01-01-2014	7		20
29-01-2013	01-01-2014	8		8
15-07-2013	01-01-2014	9		13
02-09-2013	01-01-2014	10		1
16-09-2013	01-01-2014	11		16
06-01-2013	01-01-2014	12		2
14-07-2013	01-01-2014	13		7

Definition Options Result

daatora01@LABDB01 Generated in 0.032 seconds. 1 table(s) with 13 rows.



שאלות

במטרה לפשט את השאלות ולקבל נתונים מפורטים יצרנו view הנקרא: bookspropertiesvw

View זה יוצר רשומה עבור כל ספר (כל עותק רשומה נפרדת) ובה כל פרטי הספר כולל עמודות התוכן (ולא רק מפתחות):

שאלת 1

```
create or replace view bookspropertiesvw as
select b.bookid,
       b.bookname,
       b.authorid,
       a.authorlastname || ' ' || a.authorfirstname author_name,
       b.categoryid,
       ct.categoryname,
       cb.copybookid,
       cb.copynumber
from authors a, books b, copybooks cb, categories ct
WHERE a.authorid = b.authorid
      AND ct.categoryid = b.categoryid
      and b.bookid =cb.bookid
order by bookname, copynumber, author_name, categoryname;
```

תוכן ה-VIEW

```
select * from bookspropertiesvw
```

	BOOKID	BOOKNAME	AUTHORID	AUTHOR_NAME	CATEGORYID	CATEGORYNAME	COPYBOOKID	COPYNUMBER
73	5	selenium	5	Sherman	6	Testing of CPU/Fan and Motherboard.	5	1
75	5	selenium	5	Sherman	6	Testing of CPU/Fan and Motherboard.	25	2
78	5	selenium	5	Sherman	6	Testing of CPU/Fan and Motherboard.	45	3
65	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	18	1
66	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	38	2
43	4	nickel	11	Pepper	5	64Mb RDRam SAMSUNG Must be used in pairs	4	1
46	4	nickel	11	Pepper	5	64Mb RDRam SAMSUNG Must be used in pairs	24	2
50	4	nickel	11	Pepper	5	64Mb RDRam SAMSUNG Must be used in pairs	44	3
69	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	98	4
70	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	103	5
71	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	106	6
68	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	68	3
67	18	promethium	11	Pepper	2	2 Year Warranty On Combo's.	58	3
45	10	nickel	9	Newton	6	Testing of CPU/Fan and Motherboard.	30	2
42	10	nickel	9	Newton	6	Testing of CPU/Fan and Motherboard.	10	1
41	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	19	1
44	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	39	2
51	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	99	4
52	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	104	5
53	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	107	6
47	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	69	3
48	19	nickel	9	Newton	3	Matrox Dual Head G550 With 32 MB of Double Data Rate (DDR)	59	3
49	10	nickel	9	Newton	6	Testing of CPU/Fan and Motherboard.	50	3
36	11	neodymium	7	Navarro	6	Testing of CPU/Fan and Motherboard.	31	2
34	11	neodymium	7	Navarro	6	Testing of CPU/Fan and Motherboard.	11	1
38	11	neodymium	7	Navarro	6	Testing of CPU/Fan and Motherboard.	51	3
40	11	neodymium	7	Navarro	6	Testing of CPU/Fan and Motherboard.	91	4
39	11	neodymium	7	Navarro	6	Testing of CPU/Fan and Motherboard.	61	3
87	8	tin	7	Navarro	6	Testing of CPU/Fan and Motherboard.	28	2
88	8	tin	7	Navarro	6	Testing of CPU/Fan and Motherboard.	48	3
86	8	tin	7	Navarro	6	Testing of CPU/Fan and Motherboard.	8	1
14	20	fluorine	12	McDiarmid	4	WD Caviar 20.0G 7200rpm Hard Drive	20	1
17	20	fluorine	12	McDiarmid	4	WD Caviar 20.0G 7200rpm Hard Drive	70	3
18	20	fluorine	12	McDiarmid	4	WD Caviar 20.0G 7200rpm Hard Drive	100	4
15	20	fluorine	12	McDiarmid	4	WD Caviar 20.0G 7200rpm Hard Drive	40	2
16	20	fluorine	12	McDiarmid	4	WD Caviar 20.0G 7200rpm Hard Drive	60	3
60	16	polonium	12	McDiarmid	7	AOC 19" Monitor 26 9GLR	36	2
59	16	polonium	12	McDiarmid	7	AOC 19" Monitor 26 9GLR	16	1
62	16	polonium	12	McDiarmid	7	AOC 19" Monitor 26 9GLR	66	3
61	16	polonium	12	McDiarmid	7	AOC 19" Monitor 26 9GLR	56	3
82	15	sulfur	12	McDiarmid	10	Combo AMD XP 2100+ CPU; Gigabyte GA-7VA M/B.	35	2



שאלתא 2

שאלתא המחזירה כמה ספרים יש מכל קטגוריה.

```
--for every category how many book there are  
select categoryid ,count(categoryid) from bookspropertiesvw group by  
categoryid order by categoryid
```

	CATEGORYID	COUNT(CATEGORYID)
1	2	12
2	3	7
3	4	12
4	5	3
5	6	20
6	7	9
7	8	3
8	9	11
9	10	11

שאלתא 3

שאלתא המחזירה כמה פעמים לוו כל ספר.

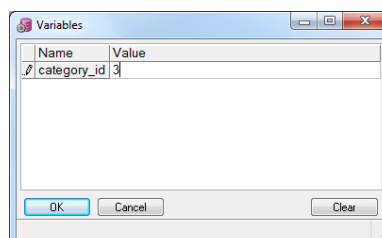
```
select cb.bookid bookid, count(cb.bookid) numLouns  
from booksoutonloan bo, copybooks cb  
where cb.copybookid = bo.copybookid  
group by cb.bookid
```

	BOOKID	NUMLOUNS
1	1	1
2	13	3
3	14	2
4	20	1
5	5	1
6	8	1
7	18	1
8	10	1
9	16	1
10	9	3
11	12	1

שאלתא 4

שאלתא מקבלת ID של ספר ומחזירה את שם הספר ושם הקטגוריה.

```
select * from categories c ,books b where c.categoryid = b.categoryid  
and c.categoryid = &category_id
```



	CATEGORYID	CATEGORYNAME	BOOKID	BOOKNAME	AUTHORID	CATEGORYID
1	3	Matrox Dual Head G55C ...	19	nickel	9	3



שאלתא 5

השאלתא מחזירה את שמות הספרים ושמות המחברים.

```
select * from authors a ,books b where b.authorid = a.authorid
```

	AUTHORID	AUTHORLASTNAME	AUTHORFIRSTNAME	BOOKID	BOOKNAME	AUTHORID	CATEGORYID
1	8	Conlee	Gino	1	lanthanum	8	8
2	2	Hutton	Vondie	2	hafnium	2	10
3	12	McDiarmid	Chubby	3	neodymium	12	9
4	11	Pepper	Molly	4	nickel	11	5
5	5	Sherman	Ivan	5	selenium	5	6
6	10	Cozier	Temuera	6	mercury	10	9
7	8	Conlee	Gino	7	calcium	8	10
8	7	Navarro	Merle	8	tin	7	6
9	4	Affleck	Caroline	9	lithium	4	7
10	9	Newton	Jon	10	nickel	9	6
11	7	Navarro	Merle	11	neodymium	7	6
12	8	Conlee	Gino	12	oxygen	8	2
13	2	Hutton	Vondie	13	barium	2	4
14	4	Affleck	Caroline	14	cobalt	4	9
15	12	McDiarmid	Chubby	15	sulfur	12	10
16	12	McDiarmid	Chubby	16	polonium	12	7
17	2	Hutton	Vondie	17	selenium	2	6
18	11	Pepper	Molly	18	promethium	11	2
19	9	Newton	Jon	19	nickel	9	3
20	12	McDiarmid	Chubby	20	fluorine	12	4

שאלתא 6

שאלתא המחזירה את הספרים המושאלים עכשיו.

```
select u.userid,
       u.userfirstname || ' ' || u.userlastname userName,
       u.useraddress,
       u.phonenumber,
       u.lastdateofmember,
       bo.dateisused,
       bo.dateisused + 30 as wanted_retirn_date,
       bp.*
from bookspropertiesvw bp, booksoutonloan bo, users u
where bp.copybookid = bo.copybookid
and bo.userid = u.userid
and bo.datereturned is null
```

	USERID	USERNAM	USERADDRESS	PHONENUMBER	LASTDATEI	DATEISUSED	WANTED_F	BOOKID	BOOKNAME	AUTHORID	AUTHOR_N	CATI	CATEGORYNAME	COP	COF
1	2	Yaphet	95 Beckham Street	0509828132	08/11/2013	03/08/2012	02/09/2012	13	barium	2	Hutton	4	WD Caviar 20.0G 7	13	1
2	7	Lloyd	38 Elle Drive	0284791631	23/09/2013	16/02/2012	17/03/2012	13	barium	2	Hutton	4	WD Caviar 20.0G 7	13	1
3	3	Ethan	52nd Street	0339689145	15/03/2013	20/08/2012	19/09/2012	14	cobalt	4	Affleck	9	Combo Intel Celer	14	1
4	4	Selma	674 Diggs Street	0253755506	01/07/2013	10/08/2012	09/09/2012	14	cobalt	4	Affleck	9	Combo Intel Celer	14	1
5	10	Jeff	23 Minnie Blvd	0504077012	30/11/2013	27/07/2012	26/08/2012	9	lithium	4	Affleck	7	AOC 19" Monitor 2	9	1
6	5	Nicky	99 Shepard	0509809303	29/03/2013	16/05/2012	15/06/2012	9	lithium	4	Affleck	7	AOC 19" Monitor 2	9	1
7	19	Lenny	19 McConaughy Road	0237699393	14/12/2013	02/06/2012	02/07/2012	9	lithium	4	Affleck	7	AOC 19" Monitor 2	9	1
8	1	Cloris	72 Dubai Road	0310114784	01/08/2013	07/10/2012	06/11/2012	10	nickel	9	Newton	6	Testing of CPU/Fa	10	1
9	6	Katie	667 Holderbank Blvd	0504343958	19/12/2013	13/02/2012	14/03/2012	12	oxygen	8	Conlee	2	2 Year Warranty O	12	1
10	3	Ethan	52nd Street	0339689145	15/03/2013	09/11/2012	09/12/2012	16	polonium	12	McDiarmid	7	AOC 19" Monitor 2	16	1
11	5	Nicky	99 Shepard	0509809303	29/03/2013	08/01/2012	07/02/2012	18	promethium	11	Pepper	2	2 Year Warranty O	18	1



שאלתא 7

שאלתא המחזירה ספרים שהושאלו, לא הוחזרו ועבר תאריך ההחזרה שלהם.

```
select *
  from booksoutonloan b
 where b.datereturned is NULL
        and b.dateisused+30 < sysdate
```

	DATEISUSED	DATERETURNED	BOOKSOUTONLOANID	USERID	COPYBOOKID
1	20/08/2012		3	3	14
2	07/10/2012		4	1	10
3	09/11/2012		5	3	16
4	10/08/2012		6	4	14
5	16/05/2012		7	5	9
6	13/02/2012		8	6	12
7	08/01/2012		11	5	18
8	16/02/2012		12	7	13
9	02/06/2012		13	8	9
10	27/07/2012		14	10	9
11	03/08/2012		15	2	13

שאלתא 8

שאלתא המחזירה את פרטי הספרים שהושאלו וכן כמה פעמים לוו כל ספר.

```
select distinct bv.bookname,bv.author_name,bv.categoryname,
bc.numLouns from bookspropertiesvw bv , booksloancontvw bc
where bc.bookid = bv.bookid
```

	BOOKNAME	AUTHOR_NAME	CATEGORYNAME	NUMLOUN
1	hickel	Newton	Testing of CPU/Fan and Motherboard.	1
2	lithium	Affleck	AOC 19" Monitor .26 9GLR	3
3	polonium	McDiarmid	AOC 19" Monitor .26 9GLR	1
4	promethium	Pepper	2 Year Warranty On Combo's.	1
5	lanthanum	Conlee	Serial ATA Power Connector for the Hard Drive.	1
6	oxygen	Conlee	2 Year Warranty On Combo's.	1
7	barium	Hutton	WD Caviar 20.0G 7200rpm Hard Drive	3
8	fluorine	McDiarmid	WD Caviar 20.0G 7200rpm Hard Drive	1
9	tin	Navarro	Testing of CPU/Fan and Motherboard.	1
10	cobalt	Affleck	Combo Intel Celeron 1.8ghz Gigabyte GA-8LD533 m/b + fan.	2
11	selenium	Sherman	Testing of CPU/Fan and Motherboard.	1



INDEX

יצירת האינדקס:

General Columns Keys Checks Indexes Privileges								
	Owner	Name	Type	Columns	Compress	Prefix length	Reverse	Local
	DAATORA01	PK_COPYBOOKS	Unique	COPYBOOKID	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
▶	daatora01	bookid	Normal	bookid ...	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
*				...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

הפעלת השאילתא לאחר יצירת ה- INDEX ארכה 0.109 שניות:

```
select * from COPYBOOKS t
```

	COPYBOOKID	COPYNUMBER	BOOKID
1	21	2	1
2	22	2	2
3	23	2	3
4	24	2	4
5	25	2	5
6	26	2	6
7	27	2	7
8	28	2	8
9	29	2	9
10	30	2	10
11	31	2	11
12	32	2	12
13	33	2	13
14	34	2	14
15	35	2	15
16	36	2	16
17	37	2	17
18	38	2	18
19	39	2	19
20	40	2	20
21	41	3	1
22	42	3	2
23	43	3	3
24	44	3	4
25	45	3	5
26	46	3	6
27	47	3	7
28	48	3	8
29	49	3	9
30	50	3	10
31	51	3	11
32	52	3	12
33	53	3	13
34	54	3	14
35	55	3	15
36	56	3	16
37	57	3	17
38	58	3	18
39	59	3	19
40	60	3	20
41	61	3	11
42	62	3	12
43	63	3	13
44	64	3	14

1:26 daatora01@LABDB01 88 rows selected in 0.109 seconds

הפעלת השאילתא לפני יצירת ה- INDEX ארכה 0.202 שניות:

```
select * from COPYBOOKS t
```

	COPYBOOKID	COPYNUMBER	BOOKID
45	65	3	15
46	66	3	16
47	67	3	17
48	68	3	18
49	69	3	19
50	70	3	20
51	1	1	1
52	2	1	2
53	3	1	3
54	4	1	4
55	5	1	5
56	6	1	6
57	7	1	7
58	8	1	8
59	9	1	9
60	10	1	10
61	11	1	11
62	12	1	12
63	13	1	13
64	14	1	14
65	15	1	15
66	16	1	16
67	17	1	17
68	18	1	18
69	19	1	19
70	20	1	20
71	91	4	11
72	92	4	12
73	93	4	13
74	94	4	14
75	95	4	15
76	96	4	16
77	97	4	17
78	98	4	18
79	99	4	19
80	100	4	20
81	101	5	16
82	102	5	17
83	103	5	18
84	104	5	19
85	105	5	20
86	106	6	18
87	107	6	19
88	108	6	20

1:26 daatora01@LABDB01 88 rows selected in 0.202 seconds



COMMIT & UPDATE

הנתונים לפי העדכון:

```
select * from booksoutonloan
```

	DATEISUSED	DATERETURNED	BOOKSOUTONLOANID	USERID	COPYBOOKID
1	29/10/2012	05/06/2012	1	1	8
2	17/04/2012		2	2	1
3	20/08/2012		3	3	14
4	07/10/2012		4	1	10
5	09/11/2012		5	3	16
6	10/08/2012		6	4	14
7	16/05/2012		7	5	9
8	13/02/2012		8	6	12
9	06/09/2012	22/07/2012	9	3	13
10	20/12/2012	25/11/2012	10	5	5
11	08/01/2012		11	5	18
12	16/02/2012		12	7	13
13	02/06/2012		13	8	9
14	27/07/2012		14	10	9
15	03/08/2012		15	2	13
16	28/10/2012	24/06/2012	16	10	20

```
update booksoutonloan b
  set b.datereturned = sysdate
where b.copybookid = &copybookid
and b.userid = &userid
and b.datereturned is null
```

הנתונים אחרי העדכון וה- COMMIT:

```
select * from booksoutonloan
```

	DATEISUSED	DATERETURNED	BOOKSOUTONLOANID	USERID	COPYBOOKID
1	29/10/2012	05/06/2012	1	1	8
2	17/04/2012	18/01/2013 12:25:41	2	2	1
3	20/08/2012		3	3	14
4	07/10/2012		4	1	10
5	09/11/2012		5	3	16
6	10/08/2012		6	4	14
7	16/05/2012		7	5	9
8	13/02/2012		8	6	12
9	06/09/2012	22/07/2012	9	3	13
10	20/12/2012	25/11/2012	10	5	5
11	08/01/2012		11	5	18
12	16/02/2012		12	7	13
13	02/06/2012		13	8	9
14	27/07/2012		14	10	9
15	03/08/2012		15	2	13
16	28/10/2012	24/06/2012	16	10	20



ROLLBACK

הוספת משתמש חדש לספריה:

```
insert into users
(userid,
 userfirstname,
 useraddress,
 phonenumber,
 lastdateofmember,
 userlastname)
values
(13,
 'Rivki',
 'Asher gulak',
 '026518111',
 to_date('11-10-2013', 'dd-mm-yyyy'),
 'Rozenfeld')
```

לאחר הפעלת `select * from users` באותו חלון:

	USERID	USERFIRSTNAME	USERADDRESS	PHONENUMBER	LASTDATEOFMEMBER	USERLASTNAME
1	1	Cloris	72 Dubai Road	0310114784	01/08/2013	Haynes
2	2	Yaphet	95 Beckham Street	0509828132	08/11/2013	Olin
3	3	Ethan	52nd Street	0339689145	15/03/2013	Nicholson
4	4	Selma	674 Diggs Street	0253755506	01/07/2013	Myles
5	5	Nicky	99 Shepard	0509809303	29/03/2013	Tyler
6	6	Katie	667 Holderbank Blvd	0504343958	19/12/2013	Hoffman
7	7	Lloyd	38 Elle Drive	0284791631	23/09/2013	Patillo
8	8	Lenny	19 McConaughy Road	0237699393	14/12/2013	Biggs
9	9	Teri	30 Salem Street	0232318707	07/01/2013	Gough
10	10	Jeff	23 Minnie Blvd	0504077012	30/11/2013	Boyle
11	11	Nanci	73rd Street	0233996421	11/08/2013	Ward
12	12	Machine	68 Milton Keynes Blvd	0246939369	19/09/2013	Scorsese
13	13	Rivki	Asher gulak	026518111	11/10/2013	Rozenfeld

לאחר ROLLBACK

ROLLBACK;

ועכשיו שוב הפעלת `select * from users` באותו חלון:

	USERID	USERFIRSTNAME	USERADDRESS	PHONENUMBER	LASTDATEOFMEMBER	USERLASTNAME
1	1	Cloris	72 Dubai Road	0310114784	01/08/2013	Haynes
2	2	Yaphet	95 Beckham Street	0509828132	08/11/2013	Olin
3	3	Ethan	52nd Street	0339689145	15/03/2013	Nicholson
4	4	Selma	674 Diggs Street	0253755506	01/07/2013	Myles
5	5	Nicky	99 Shepard	0509809303	29/03/2013	Tyler
6	6	Katie	667 Holderbank Blvd	0504343958	19/12/2013	Hoffman
7	7	Lloyd	38 Elle Drive	0284791631	23/09/2013	Patillo
8	8	Lenny	19 McConaughy Road	0237699393	14/12/2013	Biggs
9	9	Teri	30 Salem Street	0232318707	07/01/2013	Gough
10	10	Jeff	23 Minnie Blvd	0504077012	30/11/2013	Boyle
11	11	Nanci	73rd Street	0233996421	11/08/2013	Ward
12	12	Machine	68 Milton Keynes Blvd	0246939369	19/09/2013	Scorsese



PROCEDURE

פרצדורה 1

הפרצדורה מדפיסה את הפרטים של משתמש בספרייה ואת פרטי הספרים שהשאל בטווח תאריכים

```
CREATE OR REPLACE PROCEDURE booksForUserInDates (user_id IN
number, start_date IN DATE, end_date IN DATE) IS
    cursor curBooksInDatesForUser is
        select b.dateisused, b.datereturned, bpv.bookname,
bpv.author_name, bpv.categoryname
        from Booksoutonloan b, bookspropertiesvw bpv
        where b.dateisused >= start date
        and b.datereturned<= end_date
        and b.userid = user_id
        and b.copybookid = bpv.copybookid;

    cursor curUserProperties is
        select u.userfirstname, u.userlastname, u.phonenumber from
users u where u.userid = user_id;
begin
    for urec in curUserProperties
        loop
            dbms_output.put_line('user
name: ' || urec.userfirstname || urec.userlastname || ' | user
phone: ' || urec.phonenumber);
        end loop;
        dbms_output.put_line('date is used | date returned | book name
| author name | category name');
        for brec in curBooksInDatesForUser
            loop
                dbms_output.put_line(TO_CHAR
(brec.dateisused, 'mm/dd/yyyy') || ' | ' || TO_CHAR
(brec.datereturned, 'mm/dd/yyyy') || ' | '
|| brec.bookname || ' | ' || brec.author_name || ' | ' || brec.categoryname);
            end loop;
        end loop;
end;
```

בדיקת הפרוצדורה:

```
begin
    -- Call the procedure
    booksforuserindates (user_id => :user_id,
                        start_date => :start_date,
                        end_date => :end_date);
end;
```

הכנסנו משתמש מספר 1, מתאריך 01/01/2012 עד תאריך 01/01/2013

<input type="checkbox"/>	Variable	Type	Value
<input checked="" type="checkbox"/>	user_id	Float	1
<input checked="" type="checkbox"/>	start_date	Date	01/01/2012
<input checked="" type="checkbox"/>	end_date	Date	01/01/2013
<input checked="" type="checkbox"/>	*		

התוצאה:

user name: Cloris Haynes | user phone: 0310114784

date is used	date returned	book name	author name	category name
10/29/2012	06/05/2012	tin	Navarro Merle	Testing of CPU/Fan and Motherboard.



פרצדורה 2

הפרצדורה מעדכנת החזרה של ספר.

כאשר מנסים להחזיר ספר שלא הושאל הפרצדורה תחזיר בהודעה: 'this user no has this book'

אחרת, הפרצדורה מעדכנת את החזרת הספר לתאריך הנוכחי ומחזירה בהודעה: 'returned copleted'

```
CREATE OR REPLACE PROCEDURE userReturnBook(user_id    IN number,
                                             copybookID IN number,
                                             message    OUT varchar) IS
    outonloanid number;
```

```
begin

    message := 'returned copleted';
    begin
        select bo.booksoutonloanid
            into outonloanid
            from booksoutonloan bo
           where bo.userid = user_id
              and bo.copybookid = copybookID
              and bo.datereturned is null;
    exception
        when NO_DATA_FOUND then
            message := 'this user no has this book';
            DBMS_OUTPUT.PUT_LINE('this user no has this book');
        end;
    update booksoutonloan
       set booksoutonloan.datereturned = sysdate
       where booksoutonloan.booksoutonloanid = outonloanid;
end;
```

בדיקת הפרצדורה:

```
-- Call the procedure
userreturnbook(user_id => :user_id,
               copybookid => :copybookid,
               message => :message);
end;
```

לפני ההפעלה:

	Variable	Type	Value
<input checked="" type="checkbox"/>	user_id	Float	4
<input checked="" type="checkbox"/>	copybookid	Float	14
<input checked="" type="checkbox"/>	message	String	

אחרי ההפעלה:

	Variable	Type	Value
<input checked="" type="checkbox"/>	user_id	Float	4
<input checked="" type="checkbox"/>	copybookid	Float	14
<input checked="" type="checkbox"/>	message	String	returned copleted
<input checked="" type="checkbox"/>	*		



ואח"כ כמובן הפעלנו COMMIT כך:



GUI

בלחיצה על כל כפתור מציג את הטבלה המבוקשת

ספרים

The GUI application 'ShowTable' displays a library management interface. It features a table of books with columns: BOOKID, BOOKNAME, AUTHORID, and CATEGORYID. The table lists 20 books, including Lanthanum, Hafnium, Neodymium, Nickel, Selenium, Mercury, Calcium, Tin, Lithium, and Polonium. Navigation buttons are located at the top: 'חברים בספרייה', 'קטגוריות ספרים', 'ספרים', 'השאלות ספרים', 'סופרים', and 'עותקי ספרים'. A red banner on the right reads 'ברוכים הבאים לספרייה'. The background is a library interior with bookshelves. Two small illustrations are present: one of a child at a bookshelf and another of a child at a library entrance.

BOOKID	BOOKNAME	AUTHORID	CATEGORYID
1	lanthanum	8	8
2	hafnium	2	10
3	neodymium	12	9
4	nickel	11	5
5	selenium	5	6
6	mercury	10	9
7	calcium	8	10
8	tin	7	6
9	lithium	4	7
10	nickel	9	6
11	neodymium	7	6
12	oxygen	8	2
13	barium	2	4
14	cobalt	4	9
15	sulfur	12	10
16	polonium	12	7
17	selenium	2	6
18	promethium	11	2
19	nickel	9	3
20	fluorine	12	4



מגישות: אסתי ליברמן 305378903 - רבקי רוזנפלד 301248555 - סמסטר א' תשע"ג

ניהול ספרייה

קטגוריות ספרים

חברים בספרייה

השאלות ספרים

קטגוריות ספרים



סופרים

ספרים

עותקי ספרים

ברוכים הבאים לספרייה

CATEGORYID	CATEGORYNAME
1	Intel Pentium4 1...
2	2 Year Warranty ...
3	Matrox Dual Hea...
4	WD Caviar 20.0...
5	64Mb RDRam S...
6	Testing of CPU/F...
7	AOC 19" Monitor ...
8	Serial ATA Power...
9	Combo Intel Celer...
10	Combo AMD XP ...



חברים בספרייה

חברים בספרייה

השאלות ספרים

קטגוריות ספרים

סופרים

ספרים

עותקי ספרים

ברוכים הבאים לספרייה

USERID	USERFIRSTNAME	USERADDRESS	PHONENUMBER	LASTDATEOFMEM	USERLASTNAME
1	Clote	72 Dubal Road ...	0310114784	01/08/2013	Haynes
2	Yaphet	95 Beckham Stre...	0609828132	08/11/2013	Olin
3	Ethan	52nd Street ...	0339689145	15/03/2013	Nicholson
4	Selma	674 Diggs Street ...	0253755506	01/07/2013	Myles
5	Nicky	99 Shepard ...	0509809303	29/03/2013	Tyler
6	Katie	667 Holderbank ...	0504343958	19/12/2013	Hoffman
7	Lloyd	38 Elle Drive ...	0284791631	23/09/2013	Patillo
8	Lenny	19 McConaughie...	0237699393	14/12/2013	Biggs
9	Teri	30 Salem Street ...	0232318707	07/01/2013	Gough
10	Jeff	23 Minnie Blvd ...	0504077012	30/11/2013	Boyle
11	Nanci	73rd Street ...	0233996421	11/08/2013	Ward
12	Machine	68 Milton Keynes...	0246939369	19/09/2013	Scoreese





עותקי ספרים

חברים בספרייה קטגוריות ספרים ספרים

השאלות ספרים עותקי ספרים

ברוכים הבאים לספרייה

	COPYBOOKID	COPYNUMBER	BOOKID
21	2	1	
22	2	2	
23	2	3	
24	2	4	
25	2	5	
26	2	6	
27	2	7	
28	2	8	
29	2	9	
30	2	10	
31	2	11	
32	2	12	
33	2	13	
34	2	14	
35	2	15	
36	2	16	
37	2	17	
38	2	18	
39	2	19	
40	2	20	
41	3	1	
42	3	2	
43	3	3	
44	3	4	
45	3	5	
46	3	6	

סופרים

חברים בספרייה קטגוריות ספרים ספרים

השאלות ספרים עותקי ספרים

ברוכים הבאים לספרייה

	AUTHORID	AUTHORLASTNAME	AUTHORFIRSTNAME
1	Naah	Robin	
2	Hutton	Vondie	
3	Wakeling	Giancarlo	
4	Affleck	Caroline	
5	Sherman	Ivan	
6	Ryder	Don	
7	Navarro	Merle	
8	Corlee	Gino	
9	Newton	Jon	
10	Cozier	Temuera	
11	Pepper	Molly	
12	McDiamid	Chubby	
13	Basinger	Cyndi	



השאלות ספרים

חברים בספרייה

קטגוריות ספרים

ספרים

השאלות ספרים

סופרים

עותקי ספרים

ברוכים הבאים
לספרייה

DATEUSED	DATERETURNED	BOOKSOUTONLO	USERID	COPYBOOKID
01/02/2012	01/07/2012	17	3	2
29/10/2012	05/06/2012	1	1	8
17/04/2012	18/01/2013 12:25	2	2	1
20/08/2012	01/12/2012 10:00	3	3	14
07/10/2012		4	1	10
09/11/2012		5	3	16
10/08/2012		6	4	14
16/05/2012		7	5	9
13/02/2012		8	6	12
06/09/2012	22/07/2012	9	3	13
20/12/2012	25/11/2012	10	5	5
08/01/2012		11	5	18
16/02/2012		12	7	13
02/06/2012		13	8	9
27/07/2012		14	10	9
03/08/2012		15	2	13
28/10/2012	24/06/2012	16	10	20