



## מערכות קבצים ומסדי נתונים

### המרצה

מר יצחק נודלר

### מגישים

עמית לוי 311133433

יניב סיפרפאל 203311303

**הנחות**

1. החנות נפתחה בשנת 2017, על כן כל התאריכים במערכת הם החל מ 1.1.2017.
2. לקוח הוא מי שרכש לפחות ספר אחד מהחנות, כלומר משוייכת לו לפחות הזמנה אחת.
3. הזמנה לספר היא כל הזמנה בעלת סטטוס שאינו "בוטלה".
4. הזמנות לספרים שהפכו לרכישות הן הזמנות שהסטטוס שלהן הוא "נרכש".
5. תחת רשימת 10 הספרים הנמכרים ביותר, עשויים להופיע פחות מ 10 ספרים אם בטווח התאריכים המוזן נמכרו פחות מ 10 סוגי ספרים שונים.
6. מכל ספק מתבצעת הזמנה אחת של ספרים למלאי החנות בכל זמן נתון.
7. הנחה המיוחסת לספרים היא גלובלית, והנחה המיוחסת ללקוח היא ספציפית עבורו כתלות ברכישות שלו.
8. קיים כפל הנחות, כלומר- אם ללקוח מגיעה הנחה, והוא רוכש ספר עליו יש הנחה גלובלית, הוא יקבל את שתי ההנחות.
9. עבור כל לקוח, ספק, עובד ניתן לשמור מספר מספרי טלפון, ויצירת הקשר עם כל אחד מהם תעשה באמצעות טלפון.

**סכמה של בסיס הנתונים הראשוני:**

## Books

<b>ISBN</b>	Name	category	Language	Author	Publishing Year
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## TheStoreBooks

<b>ISBN</b>	Price	Amount	Global Discount
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## customersOrders

<b>Order Number</b>	Customer ID	Emp_ID	Order Status	Order_Date	Total Price	Order_Content
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## SuppliersOrders

<b>Supplier ID</b>	<b>ISBN</b>	Amount_Supplied	Order_Date
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## Customers

<b>Customer ID</b>	Full Name	Total expanses in store	Expenses for current year	Discount received	Date Added to system
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## Customers Phones

<b>Customer ID</b>	<b>Phone Number</b>
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## Suppliers Phones

<b>Supplier ID</b>	<b>Phone Number</b>
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## Suppliers

<b>Supplier ID</b>	Full Name	Incomes from store	Date Added to system
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## Suppliers books

<b>Supplier ID</b>	ISBN	Amount	Price
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## Employees

<b>Emp_ID</b>	Full Name	Salary	Date Added to system	Books sold- money amount
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## Employees Phones

<b>Emp_ID</b>	<b>Phone Number</b>
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**שכמה של בסיס הנתונים לאחר נרמול:**

## Books

<b><u>ISBN</u></b>	Name	category	Language	Author	Publishing Year
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## TheStoreBooks

<b><u>ISBN</u></b>	Price	Amount	Global Discount
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## customersOrders

<b><u>Order Number</u></b>	Customer ID	Emp_ID	Order Status	Order_Date	Total Price
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## OrdersContent

<b><u>Order Number</u></b>	<b><u>Book Name</u></b>
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## SuppliersOrders

<b><u>Supplier ID</u></b>	<b><u>ISBN</u></b>	Amount_Supplied	Order_Date
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## Customers

<b><u>Customer ID</u></b>	Full Name	Total expanses in store	Expenses for current year	Discount received	Date Added to system
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## Customers Phones

<b><u>Customer ID</u></b>	<b><u>Phone Number</u></b>
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## Suppliers

<b><u>Supplier ID</u></b>	Full Name	Incomes from store	Date Added to system
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## Suppliers Phones

<b><u>Supplier ID</u></b>	<b><u>Phone Number</u></b>
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## Suppliers books

<b><u>Supplier ID</u></b>	ISBN	Amount	Price
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## Employees

<b><u>Emp_ID</u></b>	Full Name	Salary	Date Added to system	Books sold- money amount
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## Employees Phones

<b><u>Emp_ID</u></b>	<b><u>Phone Number</u></b>
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**מימוש השאילתות****1. הצגת כל הספרים במלאי:**

- SQL Query-
  - SELECT Book\_Name, Category, Book\_Language, Author, Publishing\_Year FROM Books INNER JOIN TheStoreBooks ON TheStoreBooks.ISBN=Books.ISBN;
- Rational Algebra-
  - $\pi$  Book\_Name, Category, Book\_Language, Author, Publishing\_Year  
 $(\sigma \text{ TheStoreBooks.ISBN} = \text{Books.ISBN} \ (\text{Books} \bowtie \text{TheStoreBooks}) )$

**2. הצגת כל ההזמנות הפתוחות לספרים:**

- SQL Query-
  - SELECT \* FROM Orders WHERE Order\_Status != 'cancelled' AND Order\_Status != 'Purchased';
- Rational Algebra-
  - $\pi$  Order\_Number, Customer\_ID, Emp\_ID, Order\_Status, Order\_Date, Total\_Price  $(\sigma \text{ Order\_Status} \neq \text{'Cancelled'} \wedge \text{Order\_Status} \neq \text{'Purchased'} \ (\text{Orders}) )$

**3. הצגת רשימת כל הלקוחות**

- SQL Query-
  - SELECT \* FROM Customers;
- Rational Algebra-
  - $\pi$  Customer\_ID, Customer\_Name, Expenses, Expenses\_This\_Year, Total\_discount\_recived, Added\_To\_System\_Date (Customers)

**4. הצגת רשימת כל הספקים**

- SQL Query-
  - SELECT \* FROM Suppliers;
- Rational Algebra-
  - $\pi$  Supp\_ID, Supp\_Name, Incomes\_From\_Store, Added\_To\_System\_Date (Suppliers)

**5. הצגת על העסקאות בין תאריך X לתאריך Y**

- SQL Query-
  - SELECT \* FROM Orders where order\_date >= ? AND order\_date <= ?;
- Rational Algebra-
  - $\pi$  Supp\_ID, Supp\_Name, Incomes\_From\_Store, Added\_To\_System\_Date  
 $(\sigma \text{ order\_date} \geq ? \wedge \text{order\_date} \leq ? \ (\text{Orders}) )$

6. הצגת כל הספרים המוצעים בהנחה

- SQL Query-
  - SELECT Book\_Name, Category, Book\_Language, Author, Publishing\_Year, price, Global\_Discount FROM Books INNER JOIN TheStoreBooks ON TheStoreBooks.ISBN=Books.ISBN WHERE Global\_Discount>0;
- Rational Algebra-
  - $\pi$  Book\_Name, Category, Book\_Language, Author, Publishing\_Year, price, Global\_Discount  
 $(\sigma \text{ TheStoreBooks.ISBN} = \text{Books.ISBN} \wedge \text{Global\_Discount} > 0 (\text{Books} \bowtie \text{TheStoreBooks}))$

7. בדיקת הימצאות ספר מסויים במלאי החנות

- SQL Query-
  - SELECT Book\_Name, Author, Books\_Amount FROM Books INNER JOIN TheStoreBooks ON TheStoreBooks.ISBN=Books.ISBN WHERE Book\_Name=? OR Author=?;
- Rational Algebra-
  - $\pi$  Book\_Name, Author, Books\_Amount  
 $(\sigma \text{ TheStoreBooks.ISBN} = \text{Books.ISBN} \wedge \text{Book\_Name} = ? \vee \text{Author} = ? (\text{Books} \bowtie \text{TheStoreBooks}))$

8. רשימת כל הספקים של ספר

- SQL Query-
  - CREATE TABLE if not exists temp1 AS SELECT \* FROM Suppliers natural join SuppliersBooks;
  - CREATE TABLE if not exists temp2 AS select \* from Books natural join TheStoreBooks;
  - select Supp\_Name, Supp\_ID from temp1 inner join temp2 on temp1.ISBN=temp2.ISBN where Book\_Name=?;
- Rational Algebra-
  - $\pi$  Supp\_Name, Supp\_ID,  
 $(\sigma \text{ Book\_Name} = ? ((\text{Suppliers} \bowtie \text{SuppliersBooks}) \bowtie (\text{Books} \bowtie \text{TheStoreBooks})))$

9. מספר העותקים של ספר X שנמכרו מאז תאריך Y

- SQL Query-
  - select Book\_Name from Orders natural join OrdersContent where order\_date >=? AND Book\_Name=?;
- Rational Algebra-
  - $\pi$  Book\_Name  $(\sigma \text{ order\_date} >= ? \wedge \text{Book\_Name} = ? (\text{Orders} \bowtie \text{OrdersContent}))$

10. מספר הספרים בשה"כ שרכש לקוח X מאז תאריך Y

- SQL Query-
  - CREATE TABLE IF NOT EXISTS temp3 AS SELECT \* FROM Orders natural join OrdersContent;
  - SELECT \* FROM temp3 natural join Customers WHERE Customer\_Name=? AND Order\_Date>? AND Order\_Status!='Cancelled'
- Rational Algebra-
  - $\pi$  Customer\_Name (  $\sigma$  Customer\_Name=?  $\wedge$  Order\_Date>?  $\wedge$  Order\_Status!='Cancelled'  $((\text{Orders} \bowtie \text{OrdersContent}) \bowtie \text{Customers})$  )

11. פרטי הלקוח שרכש הכי הרבה ספרים בחנות מאז תאריך Y

- SQL Query-
  - CREATE TABLE IF NOT EXISTS temp3 AS SELECT \* FROM Orders natural join OrdersContent;
  - SELECT Customer\_Name, COUNT(`Customer\_Name`) AS `value\_occurrence` FROM temp3 natural join Customers where Order\_Status='Purchased' AND Order\_Date>? GROUP BY `Customer\_Name` ORDER BY `value\_occurrence` DESC LIMIT 1;
- Rational Algebra-
  - $\pi$  Customer\_Name,  $(\sigma$  order\_Status = 'Purchased'  $\wedge$  Order\_Date > ?  $[(\text{Orders} \bowtie \text{OrderContent}) \bowtie \text{Customers}]$  )

12. פרטי הספק ממנו הזמנו מאש תאריך Y הכי הרבה ספרים

- SQL Query-
  - SELECT Supp\_Name, supplied FROM Suppliment natural join Suppliers WHERE Order\_Date >= ? ORDER BY supplied DESC;
- Rational Algebra-
  - $\pi$  Supp\_Name, Supplied (  $\sigma$  order\_date >= ?  $(\text{Suppliment} \bowtie \text{Suppliers})$  )

13. מספר כל ההזמנות לספרים שבוצעו בין תאריך X לתאריך Y

- SQL Query-
  - SELECT \* from Orders WHERE Order\_Date>=? AND Order\_Date<=? AND Order\_Status!='Cancelled';
- Rational Algebra-
  - $\pi$  Order\_Number, Customer\_ID, Emp\_ID, Order\_Status, Order\_Date, Total\_Price  $(\sigma$  order\_date >= ?  $\wedge$  Order\_Date <= ?  $\wedge$  Order\_Status != 'Cancelled'  $(\text{Orders})$  )

14. מספר כל ההזמנות לספרים בין תאריך X לתאריך Y שהפכו לרכישות

- SQL Query-

- SELECT \* from Orders WHERE Order\_Date>=? AND Order\_Date<=? AND Order\_Status='Purchased';

- Rational Algebra-

- $\pi$  Order\_Number, Customer\_ID, Emp\_ID, Order\_Status, Order\_Date, Total\_Price  
 $(\sigma \text{ Order\_Date} \geq ? \wedge \text{Order\_Date} \leq ? \wedge \text{Order\_Status} = \text{'Purchased'} \text{ (Orders)})$

15. סך ההנחה שקיבל לקוח Z מאז תאריך Y

- SQL Query-

- SELECT \* FROM Customers WHERE Customer\_Name=? AND Added\_To\_System\_Date>=?;

- Rational Algebra-

- $\pi$  Customer\_ID, Customer\_Name, Expenses, Expenses\_This\_Year, Total\_discount\_recived,  
 Added\_To\_System\_Date  
 $(\sigma \text{ Customer\_Name} = ? \wedge \text{Added\_To\_System\_Date} \geq ? \text{ (Customers)})$

16. סך כל ההכנסות של החנות במהלך הרבעונים של שנה מסוימת

- SQL Query-

- SELECT \* FROM Customers WHERE Added\_To\_System\_Date>=?

- Rational Algebra-

- $\pi$  Customer\_ID, Customer\_Name, Expenses, Expenses\_This\_Year, Total\_discount\_recived,  
 Added\_To\_System\_Date  
 $(\sigma \text{ Customer\_Name} = ? \wedge \text{Added\_To\_System\_Date} \geq ? \text{ (Customers)})$

17. מספר הלקוחות החדשים שהתווספו מאז תאריך Y

- SQL Query-

- SELECT \* FROM Customers WHERE Added\_To\_System\_Date>=? ;

- Rational Algebra-

- $\pi$  Customer\_ID, Customer\_Name, Expenses, Expenses\_This\_Year, Total\_discount\_recived,  
 Added\_To\_System\_Date  $(\sigma \text{ Added\_To\_System\_Date} \geq ? \text{ (Customers)})$

18. סך הרכישות מספק בין תאריך X לתאריך Y

- SQL Query-

- SELECT Supp\_Name, Incomes\_From\_Store FROM Suppliment natural join Suppliers WHERE  
 Supp\_ID=? AND Order\_Date >= ? AND Order\_Date <= ?;

- Rational Algebra-

- $\pi$  Supp\_Name, Incomes\_From\_Store  $(\sigma \text{ Supp\_ID}=? \text{ AND Order\_Date} \geq ? \text{ AND Order\_Date} \leq ? \text{ (Suppliment} \bowtie \text{Suppliers)})$



19. סך המכירות של מוכר Z בחנות

## • SQL Query-

- SELECT \* FROM Orders natural join Employees where Emp\_Name=? AND Order\_Date>=? AND Order\_Date<=?;

## • Rational Algebra-

- $\pi$  Emp\_ID, Order\_Number, Customer\_ID, Order\_Status, Order\_Date, Total\_Price, Emp\_Name, Salary, JoiningToStoreDate, BooksSold\_TotalMoneyamount  
 $(\sigma \text{ Emp\_Name} = ? \wedge \text{Order\_Date} \geq ? \wedge \text{Order\_Date} \leq ? \text{ (Orders} \bowtie \text{Employees) )}$

20. רשימת 10 הספרים הכי נמכרים בין תאריך X לתאריך Y

## • SQL Query-

- SELECT Book\_Name, COUNT(\*) AS book\_count FROM orders natural join OrdersContent WHERE Order\_Date >= ? AND Order\_Date <= ? AND Order\_Status!= 'Cancelled' group by Book\_Name ORDER BY book\_count DESC;

## • Rational Algebra-

- $\pi$  Book\_Name, book\_count  
 $(\sigma \text{ Order\_Date} \geq ? \wedge \text{Order\_Date} \leq ? \wedge \text{Order\_Status} \neq \text{'Cancelled'} \text{ (Orders} \bowtie \text{OrdersContent) )}$

## תוכן הטבלאות:

## Books

ISBN	Name	category	Language	Author	Publishing Year
'089179767-X'	'Vanish At The Past'	'Fantasy'	'English'	'Davey Dykins'	'1989'
'095254332-X'	'Lust Of Hell'	'Romance'	'English'	'Clarissa Addionisio'	'1988'
'119639776-7'	'Union Of The Stockades'	'Adventure'	'Italian'	'Erastus McBeath'	'1990'
'126219423-7'	'Admiring The Light'	'Drama'	'Hindi'	'Rae Venton'	'1992'
'161913965-0'	'Sounds Of The Maze'	'Drama'	'Franch'	'Aylmer Clemow'	'2013'
'250024852-6'	'Mutants Asking Questions'	'Horor'	'English'	'Drusilla Van De Cappelle'	'2018'
'374822624-1'	'Women Of The Evening'	'Romance'	'Franch'	'Markos Krebs'	'1993'
'552547148-5'	'Patrons And Patrons'	'Drama'	'English'	'Constantin Jodrelle'	'2015'
'561800464-X'	'Ogre Without Desire'	'Fantacy'	'English'	'Fletch Dormand'	'1990'
'578859010-8'	'Revival In My Town'	'Mystery'	'English'	'Sherwood Patience'	'1990'
'600789272-7'	'Songs With A Hat'	'Humor'	'Hebrew'	'Urbain Cescotti'	'1992'
'623753193-9'	'Armies Of Agony'	'Drama'	'English'	'Kanya Stocken'	'1997'
'754692835-4'	'Bunnies Of Mystery'	'Children'	'English'	'Paxon Oxby'	'2017'
'867529509-X'	'Careful Of Nature'	'Horor'	'Hebrew'	'Shellie Service'	'1998'
'888147660-6'	'Medic Of The Banished'	'Adventure'	'English'	'Laurena Mee'	'2016'

## TheStoreBooks

ISBN	Price	Amount	Global Discount
'095254332-X'	'50'	'20'	'0'
'119639776-7'	'40'	'39'	'0.2'
'250024852-6'	'15'	'49'	'0.3'
'374822624-1'	'35'	'39'	'0.1'
'552547148-5'	'10'	'25'	'0'
'561800464-X'	'10'	'49'	'0'
'600789272-7'	'30'	'25'	'0'
'623753193-9'	'20'	'56'	'0.2'
'867529509-X'	'25'	'59'	'0'
'888147660-6'	'12'	'39'	'0'

## customersOrders

<b>Order Number</b>	Customer ID	Emp_ID	Order Status	Order_Date	Total Price
<b>'1'</b>	'201954912'	'382224948'	'Ordered'	'2017-06-27'	'1557'
<b>'2'</b>	'401795834'	'079727787'	'Ordered'	'2017-12-02'	'1625'
<b>'3'</b>	'503860353'	'569422207'	'messageSent'	'2017-05-19'	'852'
<b>'4'</b>	'503860353'	'499263433'	'Purchased'	'2017-12-17'	'1221'
<b>'5'</b>	'201943842'	'499263433'	'Arrived'	'2017-01-22'	'1630'
<b>'6'</b>	'302993813'	'499263433'	'Cancelled'	'2017-04-07'	'904'
<b>'7'</b>	'561038427'	'403252037'	'Purchased'	'2018-05-14'	'1493'
<b>'8'</b>	'561038427'	'823213354'	'Purchased'	'2017-11-27'	'1847'
<b>'9'</b>	'353941513'	'582039536'	'Arrived'	'2018-07-11'	'1334'
<b>'10'</b>	'491756877'	'582039536'	'Ordered'	'2018-06-24'	'2671'
<b>'11'</b>	'401795834'	'382224948'	'messageSent'	'2018-01-22'	'1256'
<b>'12'</b>	'201764949'	'382224948'	'Ordered'	'2017-07-03'	'1112'
<b>'13'</b>	'354095689'	'652444153'	'Ordered'	'2018-10-02'	'939'

## OrdersContent

<b>Order Number</b>	<b>Book Name</b>
<b>'1'</b>	<b>'Armies Of Agony'</b>
<b>'8'</b>	<b>'Careful Of Nature'</b>
<b>'11'</b>	<b>'Careful Of Nature'</b>
<b>'9'</b>	<b>'Lust Of Hell'</b>
<b>'11'</b>	<b>'Lust Of Hell'</b>
<b>'1'</b>	<b>'Medic Of The Banished'</b>
<b>'3'</b>	<b>'Medic Of The Banished'</b>
<b>'7'</b>	<b>'Medic Of The Banished'</b>
<b>'10'</b>	<b>'Medic Of The Banished'</b>
<b>'1'</b>	<b>'Mutants Asking Questions'</b>
<b>'5'</b>	<b>'Mutants Asking Questions'</b>
<b>'7'</b>	<b>'Mutants Asking Questions'</b>
<b>'9'</b>	<b>'Mutants Asking Questions'</b>
<b>'12'</b>	<b>'Mutants Asking Questions'</b>
<b>'1'</b>	<b>'Songs With A Hat'</b>
<b>'4'</b>	<b>'Songs With A Hat'</b>
<b>'2'</b>	<b>'Union Of The Stockades'</b>
<b>'6'</b>	<b>'Union Of The Stockades'</b>

## SuppliersOrders

<b>Supplier ID</b>	<b>ISBN</b>	<b>Amount_Supplied</b>	<b>Order_Date</b>
'015129428'	'600789272-7'	'30'	'2017-09-22'
'124425982'	'623753193-9'	'10'	'2018-10-31'
'288423058'	'250024852-6'	'15'	'2018-08-19'
'349686016'	'867529509-X'	'10'	'2017-04-17'
'412616694'	'561800464-X'	'12'	'2017-02-17'
'625632797'	'552547148-5'	'10'	'2017-06-09'
'631483430'	'623753193-9'	'10'	'2017-03-22'
'721276415'	'095254332-X'	'50'	'2018-05-09'
'809995153'	'374822624-1'	'10'	'2017-09-27'
'809995153'	'867529509-X'	'15'	'2018-10-06'
'839113642'	'561800464-X'	'10'	'2018-05-02'
'935903924'	'374822624-1'	'25'	'2018-01-19'

## Customers

<b>Customer ID</b>	<b>Full Name</b>	<b>Total expanses in store</b>	<b>Expenses for current year</b>	<b>Discount received</b>	<b>Date Added to system</b>
'201764949'	'Erik Hounsham'	'3000'	'1200'	'0.1'	'2018-07-09'
'201943842'	'Andrea Ozintsev'	'485'	'200'	'0.1'	'2017-01-25'
'201954912'	'Niels Strelitzer'	'819'	'500'	'0.1'	'2017-02-21'
'302993813'	'Pearla McOrkill'	'1843'	'1300'	'0'	'2018-02-21'
'353941513'	'Danny Fourcade'	'55'	'55'	'0.1'	'2018-02-07'
'354095689'	'Geri Tuftin'	'1663'	'1340'	'0'	'2018-01-25'
'401795834'	'Cindelyn Labeuil'	'955'	'800'	'0.2'	'2018-04-01'
'491756877'	'Tamara Perassi'	'1998'	'1398'	'0.1'	'2017-08-03'
'503860353'	'Collete Thomerson'	'1990'	'1000'	'0.1'	'2017-12-15'
'561038427'	'Chadd Kloska'	'1300'	'940'	'0.2'	'2017-07-08'

## Customers Phones

<b><u>Customer ID</u></b>	<b><u>Phone Number</u></b>
<b><u>491756877</u></b>	<b><u>(149) 6587422</u></b>
<b><u>353941513</u></b>	<b><u>(164) 6929417</u></b>
<b><u>353941513</u></b>	<b><u>(319) 1754773</u></b>
<b><u>401795834</u></b>	<b><u>(339) 3047428</u></b>
<b><u>503860353</u></b>	<b><u>(339) 5281345</u></b>
<b><u>201943842</u></b>	<b><u>(420) 2437829</u></b>
<b><u>561038427</u></b>	<b><u>(432) 1211491</u></b>
<b><u>201764949</u></b>	<b><u>(504) 8008524</u></b>
<b><u>302993813</u></b>	<b><u>(697) 6491263</u></b>
<b><u>354095689</u></b>	<b><u>(755) 8739067</u></b>
<b><u>201943842</u></b>	<b><u>(846) 3771753</u></b>
<b><u>201954912</u></b>	<b><u>(965) 9821447</u></b>

## Suppliers

<b><u>Supplier ID</u></b>	<b><u>Full Name</u></b>	<b><u>Incomes from store</u></b>	<b><u>Date Added to system</u></b>
<b><u>'015129428'</u></b>	'Shari Besant'	'1080'	'2018-08-03'
<b><u>'124425982'</u></b>	'Grover Goozee'	'0'	'2017-02-24'
<b><u>'288423058'</u></b>	'Scarlett Dibb'	'600'	'2018-01-09'
<b><u>'349686016'</u></b>	'Seth Joesbury'	'3042'	'2017-06-22'
<b><u>'412616694'</u></b>	'Lari Bartolomeu'	'0'	'2017-06-22'
<b><u>'625632797'</u></b>	'Harvey Winkle'	'1200'	'2017-12-18'
<b><u>'631483430'</u></b>	'Val Standrin'	'480'	'2017-11-15'
<b><u>'721276415'</u></b>	'Giralda Boddice'	'1950'	'2017-01-26'
<b><u>'809995153'</u></b>	'Mommy Chilcott'	'1080'	'2018-03-21'
<b><u>'839113642'</u></b>	'Winn Shutte'	'400'	'2018-07-01'

## Suppliers Phones

<b>Supplier ID</b>	<b>Phone Number</b>
<u>'015129428'</u>	<u>'(231) 8339530'</u>
<u>'625632797'</u>	<u>'(251) 9236825'</u>
<u>'412616694'</u>	<u>'(278) 8631288'</u>
<u>'631483430'</u>	<u>'(632) 7303280'</u>
<u>'721276415'</u>	<u>'(780) 7426268'</u>
<u>'288423058'</u>	<u>'(798) 4668310'</u>
<u>'935903924'</u>	<u>'(808) 3284963'</u>
<u>'349686016'</u>	<u>'(878) 3950699'</u>
<u>'124425982'</u>	<u>'(893) 6377544'</u>
<u>'631483430'</u>	<u>'(904) 2061602'</u>
<u>'809995153'</u>	<u>'(933) 5318535'</u>
<u>'839113642'</u>	<u>'(992) 7678403'</u>

## Employees

<b>Emp_ID</b>	<b>Full Name</b>	<b>Salary</b>	<b>Date Added to system</b>	<b>Books sold- money amount</b>
<u>'079727787'</u>	'Kala Rollins'	'4752'	'2018-07-19'	'110'
<u>'157438974'</u>	'Kikelia Mahaddy'	'5799'	'2018-08-03'	'950'
<u>'382224948'</u>	'Armand Berthouloume'	'8555'	'2017-11-20'	'790'
<u>'392704018'</u>	'Helga Longhirst'	'5044'	'2017-01-15'	'560'
<u>'403252037'</u>	'Morty Assandri'	'6514'	'2017-09-13'	'290'
<u>'499263433'</u>	'Yorgos Meredyth'	'8869'	'2017-02-09'	'820'
<u>'534971565'</u>	'Kikelia Mahaddy'	'5799'	'2017-10-06'	'950'
<u>'569422207'</u>	'Barry Henrichsen'	'9235'	'2018-04-22'	'710'
<u>'582039536'</u>	'Mahmud Blaise'	'9062'	'2017-07-11'	'500'
<u>'652444153'</u>	'Ynes St. Paul'	'4712'	'2017-07-19'	'590'
<u>'823213354'</u>	'Rafe Newlands'	'5718'	'2018-07-06'	'780'

## Employees Phones

<b>Emp_ID</b>	<b>Phone Number</b>
<u>'079727787'</u>	<u>'(419) 8717088'</u>
<u>'157438974'</u>	<u>'(784) 5712861'</u>
<u>'382224948'</u>	<u>'(716) 5155960'</u>
<u>'392704018'</u>	<u>'(878) 7121872'</u>
<u>'403252037'</u>	<u>'(251) 9554452'</u>
<u>'499263433'</u>	<u>'(687) 5190471'</u>
<u>'534971565'</u>	<u>'(620) 7515862'</u>
<u>'569422207'</u>	<u>'(604) 4280875'</u>
<u>'582039536'</u>	<u>'(432) 1211491'</u>
<u>'652444153'</u>	<u>'(287) 8807580'</u>
<u>'823213354'</u>	<u>'(371) 3050646'</u>
<u>'079727787'</u>	<u>'(419) 8717088'</u>

## Suppliers books

Supplier ID	ISBN	Amount	Price
<b>'015129428'</b>	'600789272-7'	'140'	'20'
<b>'015129428'</b>	'867529509-X'	'100'	'48'
<b>'124425982'</b>	'578859010-8'	'350'	'45'
<b>'124425982'</b>	'623753193-9'	'235'	'50'
<b>'288423058'</b>	'089179767-X'	'85'	'75'
<b>'288423058'</b>	'250024852-6'	'85'	'40'
<b>'349686016'</b>	'867529509-X'	'95'	'45'
<b>'412616694'</b>	'561800464-X'	'135'	'34'
<b>'412616694'</b>	'754692835-4'	'460'	'45'
<b>'625632797'</b>	'552547148-5'	'50'	'20'
<b>'625632797'</b>	'623753193-9'	'130'	'50'
<b>'625632797'</b>	'867529509-X'	'300'	'50'
<b>'631483430'</b>	'161913965-0'	'275'	'45'
<b>'631483430'</b>	'623753193-9'	'230'	'48'
<b>'721276415'</b>	'095254332-X'	'190'	'15'
<b>'721276415'</b>	'119639776-7'	'240'	'30'
<b>'721276415'</b>	'161913965-0'	'240'	'40'
<b>'809995153'</b>	'374822624-1'	'250'	'30'
<b>'809995153'</b>	'867529509-X'	'120'	'52'
<b>'839113642'</b>	'561800464-X'	'455'	'40'
<b>'935903924'</b>	'089179767-X'	'110'	'70'
<b>'935903924'</b>	'161913965-0'	'210'	'55'
<b>'935903924'</b>	'374822624-1'	'110'	'30'
<b>'935903924'</b>	'888147660-6'	'300'	'35'
<b>'015129428'</b>	'600789272-7'	'140'	'20'