

## Module 5. Assignment 2: Creating a SaleCo Relational Database

Alisher Siddikov

```
(base) C:\Users\asidd>
```

```
(base) C:\Users\asidd>CD Desktop\MSDS\420 Database Systems\Lecture 5\Exercise 3 Files Version b\Exercise 3  
Files Version b
```

```
(base) C:\Users\asidd\Desktop\MSDS\420 Database Systems\Lecture 5\Exercise 3 Files Version b\Exercise 3 Files  
Version b>dir
```

```
Volume in drive C is OS
```

```
Volume Serial Number is 32DD-F0F8
```

```
Directory of C:\Users\asidd\Desktop\MSDS\420 Database Systems\Lecture 5\Exercise 3 Files Version  
b\Exercise 3 Files Version b
```

07/25/2019	02:43 AM	<DIR>	.
07/25/2019	02:43 AM	<DIR>	..
07/23/2019	08:13 PM		6,148 .DS_Store
07/24/2019	11:29 PM	<DIR>	.ipynb_checkpoints
07/23/2019	10:49 PM		8,486 Build-DB-SaleCo.sql
07/23/2019	10:50 PM		6,166 LoadRowsIntoDB.sql
07/25/2019	01:48 AM		73,728 SaleCo
07/25/2019	02:39 AM		467,560 Siddikov_Exercise_1.ipynb
07/25/2019	02:40 AM		332,261 Siddikov_Exercise_1.pdf
07/23/2019	08:13 PM		740,352 sqlite3.exe
07/25/2019	01:16 AM		8,131,584 xyz.db
07/23/2019	08:13 PM		2,018,041 xyzcust10.csv
07/25/2019	01:16 AM		2,826,422 xyzcust10.p

10 File(s) 14,610,748 bytes

3 Dir(s) 102,088,179,712 bytes free

(base) C:\Users\asidd\Desktop\MSDS\420 Database Systems\Lecture 5\Exercise 3 Files Version b\Exercise 3 Files  
Version b>Sqlite3.exe

SQLite version 3.21.0 2017-10-24 18:55:49

Enter ".help" for usage hints.

Connected to a transient in-memory database.

Use ".open FILENAME" to reopen on a persistent database.

sqlite> .open SaleCo

sqlite> .header on

sqlite> .mode column

sqlite> .tables

CUSTOMER	INVOICE	LINE	P	PRODUCT	V	VENDOR
----------	---------	------	---	---------	---	--------

sqlite> select \* from invoice;

INV_NUMBER	CUS_CODE	INV_DATE
-----	-----	-----
1001	10014	16-JAN-2016
1002	10011	16-JAN-2016
1003	10012	16-JAN-2016
1004	10011	17-JAN-2016
1005	10018	17-JAN-2016
1006	10014	17-JAN-2016
1007	10015	17-JAN-2016
1008	10011	17-JAN-2016

## 1. ## Write a query to count the number of invoices.

```
SELECT COUNT(INV_NUMBER)
FROM INVOICE;
```

## Or ##

```
SELECT COUNT(*)
FROM INVOICE;
COUNT(INV_NUMBER)
```

-----

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## 2. ## Write a query to count the number of customers with a customer balance over \$500.

```
SELECT COUNT(CUS_CODE)
FROM CUSTOMER
WHERE CUS_BALANCE > 500;
COUNT(CUS_CODE)
```

-----

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## 3. ## Generate a listing of all purchases made by customers; sort output by the customer code and invoice number.

```
SELECT * FROM INVOICE INV
INNER JOIN LINE LN
ON INV.INV_NUMBER = LN.INV_NUMBER
ORDER BY CUS_CODE, INV_NUMBER;
```

INV_NUMBER	CUS_CODE	INV_DATE	INV_NUMBER	LINE_NUMBER	P_CODE	LINE_UNITS	LINE_PRICE
-----	-----	-----	-----	-----	-----	-----	-----
1002	10011	16-JAN-2016	1002	1	54778-2T	2	4.99
1004	10011	17-JAN-2016	1004	1	54778-2T	3	4.99
1004	10011	17-JAN-2016	1004	2	23109-HB	2	9.95
1008	10011	17-JAN-2016	1008	1	PVC23DRT	5	5.87
1008	10011	17-JAN-2016	1008	2	WR3/TT3	3	119.95
1008	10011	17-JAN-2016	1008	3	23109-HB	1	9.95

1003	10012	16-JAN-2016	1003	1	2238/QPD	1	38.95
1003	10012	16-JAN-2016	1003	2	1546-QQ2	1	39.95
1003	10012	16-JAN-2016	1003	3	13-Q2/P2	5	14.99
1001	10014	16-JAN-2016	1001	1	13-Q2/P2	1	14.99
1001	10014	16-JAN-2016	1001	2	23109-HB	1	9.95
1006	10014	17-JAN-2016	1006	1	SM-18277	3	6.99
1006	10014	17-JAN-2016	1006	2	2232/QTY	1	109.92
1006	10014	17-JAN-2016	1006	3	23109-HB	1	9.95
1006	10014	17-JAN-2016	1006	4	89-WRE-Q	1	256.99
1007	10015	17-JAN-2016	1007	1	13-Q2/P2	2	14.99
1007	10015	17-JAN-2016	1007	2	54778-2T	1	4.99
1005	10018	17-JAN-2016	1005	1	PVC23DRT	12	5.87

## 4. ## Generate a listing of customer purchases, including the subtotals for each of the invoice line numbers; sort output by customer code, invoice number and the line\_number.

```
SELECT INV.CUS_CODE, CUS.CUS_LNAME, INV.INV_NUMBER, PRD.P_DESCRIPTOR, LN.LINE_UNITS, LN.LINE_PRICE,
LN.LINE_UNITS * LN.LINE_PRICE AS SUB_TOTALS
FROM INVOICE INV INNER
JOIN LINE LN
ON INV.INV_NUMBER = LN.INV_NUMBER
INNER JOIN PRODUCT PRD
ON PRD.P_CODE = LN.P_CODE
INNER JOIN CUSTOMER CUS
ON CUS.CUS_CODE = INV.CUS_CODE
ORDER BY INV.CUS_CODE, INV.INV_NUMBER, PRD.P_DESCRIPTOR;
```

## Or ##

```
SELECT INV.CUS_CODE, CUS.CUS_LNAME, INV.INV_NUMBER, PRD.P_DESCRIPTOR, LN.LINE_UNITS, LN.LINE_PRICE,
LN.LINE_UNITS * LN.LINE_PRICE AS SUB_TOTALS
FROM INVOICE INV, LINE LN, PRODUCT PRD, CUSTOMER CUS
WHERE INV.INV_NUMBER = LN.INV_NUMBER
AND PRD.P_CODE = LN.P_CODE
```

```

AND CUS.CUS_CODE = INV.CUS_CODE
ORDER BY INV.CUS_CODE, INV. INV_NUMBER, PRD.P_DESCRIPT;

```

CUS_CODE	CUS_LNAME	INV_NUMBER	P_DESCRIPT	LINE_UNITS	LINE_PRICE	SUB_TOTALS
-----	-----	-----	-----	-----	-----	-----
10011	Dunne	1002	Rat-tail file, 1/8-in. fine	2	4.99	9.98
10011	Dunne	1004	Claw hammer	2	9.95	19.9
10011	Dunne	1004	Rat-tail file, 1/8-in. fine	3	4.99	14.97
10011	Dunne	1008	Claw hammer	1	9.95	9.95
10011	Dunne	1008	PVC pipe, 3.5-in., 8-ft	5	5.87	29.35
10011	Dunne	1008	Steel matting, 4'x8'x1/6",	3	119.95	359.85
10012	Smith	1003	7.25-in. pwr. saw blade	5	14.99	74.95
10012	Smith	1003	B&D cordless drill, 1/2-in.	1	38.95	38.95
10012	Smith	1003	Hrd. cloth, 1/4-in., 2x50	1	39.95	39.95
10014	Orlando	1001	7.25-in. pwr. saw blade	1	14.99	14.99
10014	Orlando	1001	Claw hammer	1	9.95	9.95
10014	Orlando	1006	1.25-in. metal screw, 25	3	6.99	20.97
10014	Orlando	1006	B&D jigsaw, 12-in. blade	1	109.92	109.92
10014	Orlando	1006	Claw hammer	1	9.95	9.95
10014	Orlando	1006	Hicut chain saw, 16 in.	1	256.99	256.99
10015	O'Brian	1007	7.25-in. pwr. saw blade	2	14.99	29.98
10015	O'Brian	1007	Rat-tail file, 1/8-in. fine	1	4.99	4.99
10018	Farriss	1005	PVC pipe, 3.5-in., 8-ft	12	5.87	70.44

## 5. ## List the balance characteristics of the customers who have made purchases during the current invoice cycle—that is, for the customers who appear in the INVOICE table; sort by customer code.

```

SELECT DISTINCT INV.CUS_CODE, CUS.CUS_BALANCE
FROM CUSTOMER CUS, INVOICE INV

```

```
WHERE CUS.CUS_CODE = INV.CUS_CODE
ORDER BY INV.CUS_CODE;
```

## Or ##

```
SELECT CUS.CUS_CODE, CUS.CUS_BALANCE
FROM CUSTOMER CUS
WHERE CUS.CUS_CODE
IN (SELECT DISTINCT INV.CUS_CODE FROM INVOICE INV)
ORDER BY CUS.CUS_CODE;
```

CUS_CODE	CUS_BALANCE
-----	-----
10011	0
10012	345.86
10014	0
10015	0
10018	216.55

## 6. ## Find a listing of customers who did not make purchases during the invoicing period; sort by customer code.

```
SELECT CUS.CUS_CODE, CUS.CUS_BALANCE
FROM CUSTOMER CUS
WHERE CUS.CUS_CODE
NOT IN (SELECT DISTINCT INV.CUS_CODE FROM INVOICE INV)
ORDER BY CUS.CUS_CODE;
```

CUS_CODE	CUS_BALANCE
-----	-----
10010	0
10013	536.75
10016	221.19
10017	768.93
10019	0

## 7. ## Create a query to produce a summary of the value of products currently in inventory.

```
SELECT P_DESCRIPT, P_QOH, P_PRICE, P_QOH * P_PRICE AS SUBTOTAL
FROM PRODUCT;
```

P_DESCRIPT	P_QOH	P_PRICE	SUBTOTAL
-----	-----	-----	-----
Power painter, 15 psi., 3-nozzle	8	109.99	879.92
7.25-in. pwr. saw blade	32	14.99	479.68
9.00-in. pwr. saw blade	18	17.49	314.82
Hrd. cloth, 1/4-in., 2x50	15	39.95	599.25
Hrd. cloth, 1/2-in., 3x50	23	43.99	1011.77
B&D jigsaw, 12-in. blade	8	109.92	879.36
B&D jigsaw, 8-in. blade	6	99.87	599.22
B&D cordless drill, 1/2-in.	12	38.95	467.4
Claw hammer	23	9.95	228.85
Sledge hammer, 12 lb.	8	14.4	115.2
Rat-tail file, 1/8-in. fine	43	4.99	214.57
Hicut chain saw, 16 in.	11	256.99	2826.89
PVC pipe, 3.5-in., 8-ft	188	5.87	1103.56
1.25-in. metal screw, 25	172	6.99	1202.28
2.5-in. wd. screw, 50	237	8.45	2002.65
Steel matting, 4'x8'x1/6", .5" m	18	119.95	2159.1