

8. Write the SQL code to generate the total hours worked and the total charges made by all employees. The results are shown in Figure P7.8.

FIGURE P7.8 TOTAL HOURS AND CHARGES, ALL EMPLOYEES

SumOfSumOfASSIGN_HOURS	SumOfSumOfASSIGN_CHARGE
90.6	7612.64

The structure and contents of the Ch07_SaleCo database are shown in Figure P7.9. Use this database to answer the following problems.

FIGURE P7.9 THE CH07_SALECO DATABASE

Relational diagram

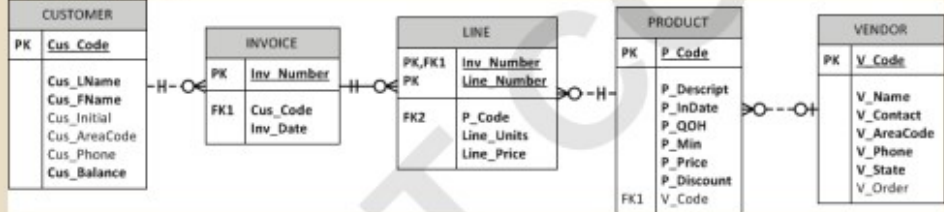


Table name: CUSTOMER

CUS_CODE	CUS_LNAME	CUS_FNAME	CUS_INITIAL	CUS_AREACODE	CUS_PHONE	CUS_BALANCE
10001	Raines	Alfred	A.	615	844-2573	0.00
10001	Dunne	Leona	K.	713	894-1230	0.00
10002	Smith	Kathy	W.	615	894-2205	345.06
10003	Olowski	Paul	F.	615	894-2180	536.75
10004	Orlando	Myron		615	220-1972	0.00
10005	O'Brien	Arny	B.	713	442-3301	0.00
10006	Brown	James	G.	615	297-1228	221.19
10007	Williams	George		615	296-2556	766.93
10008	Farriss	Anne	O.	713	362-7195	216.95
10009	Smith	Oshea	K.	615	297-3909	0.00

Table name: VENDOR

V_CODE	V_NAME	V_CONTACT	V_AREACODE	V_PHONE	V_STATE	V_ORDER
21225	Bryson, Inc.	Smithson	615	223-3234	TN	Y
21226	SuperLoe, Inc.	Flushing	904	215-8995	FL	N
21231	DAE Supply	Singh	615	226-3245	TN	Y
21344	Gomez Bros.	Ortega	615	889-2546	KY	N
22587	Dome Supply	Smith	901	678-1419	GA	N
23119	Radsett's Ltd.	Anderson	901	678-3968	GA	Y
24004	Blackman Bros.	Browning	615	226-1410	TN	N
24289	ORDVA, Inc.	Hickford	615	890-1234	TN	Y
25443	B&K, Inc.	Smith	904	227-0083	FL	N
25501	Daniel Supplies	Smith	615	890-3529	TN	N
25595	Rubicon Systems	Orton	904	456-0092	FL	Y

Table name: INVOICE

INV_NUMBER	CUS_CODE	INV_DATE
1001	10014	16-Jan-10
1002	10015	16-Jan-10
1003	10012	16-Jan-10
1004	10011	17-Jan-10
1005	10018	17-Jan-10
1006	10014	17-Jan-10
1007	10015	17-Jan-10
1008	10011	17-Jan-10

Table name: LINE

INV_NUMBER	LINE_NUMBER	P_CODE	LINE_UNITS	LINE_PRICE
1001	1	113-02P2	1	14.99
1001	2	23106-HB	1	9.95
1002	1	54778-2T	2	4.99
1003	1	22386-OPD	1	38.95
1003	2	1546-GQ2	1	39.95
1003	3	113-02P2	5	14.99
1004	1	54778-2T	3	4.99
1004	2	23106-HB	2	9.95
1005	1	PVC23DR1	12	5.87
1006	1	SM-18277	3	6.99
1006	2	22320-TY	1	109.92
1006	3	23106-HB	1	9.95
1006	4	89-VARE-G	1	256.99
1007	1	113-02P2	2	14.99
1007	2	54778-2T	1	4.99
1008	1	PVC23DR1	5	5.87
1008	2	VR3/TT3	3	119.96
1008	3	23106-HB	1	9.95

Table name: PRODUCT

P_CODE	P_DESCRPT	P_QUOTE	P_QOH	P_MIN	P_PRICE	P_DISCOUNT	V_CODE
113-02P2	Power partner, 15 psi, 3-nozzle	03-Nov-17	8	5	109.99	0.00	25595
13-02P2	7.25-in. gvw. saw blade	13-Dec-17	32	15	14.99	0.00	21344
14-02P2	9.00-in. gvw. saw blade	13-Nov-17	18	12	17.49	0.00	21344
1546-GQ2	Hiro cloth, 1.4-in., 2x50	15-Jan-18	15	8	39.95	0.00	23119
1598-GQ2	Hiro cloth, 1.5-in., 3x50	15-Jan-18	23	5	43.99	0.00	23119
22320-TY	BSD igress, 12-in. blade	30-Dec-17	8	5	109.92	0.00	24289
22386-OPD	BSD igress, 6-in. blade	24-Dec-17	6	5	99.97	0.00	24289
22386-OPD	B&D cordless drill, 12-in.	26-Jan-18	12	5	38.95	0.00	25595
23106-HB	Crew hammer	26-Jan-18	23	10	9.95	0.10	21225
23114-AA	Sledge hammer, 12 lb.	02-Jan-18	8	5	14.40	0.00	
54778-2T	Flat-tail file, 10-in. fine	15-Dec-17	43	20	4.99	0.00	21344
89-VARE-G	Heat chain saw, 16 in.	07-Feb-18	11	5	256.99	0.00	24289
PVC23DR1	PVC pipe, 3.5-in., 6-ft	20-Feb-18	189	75	5.87	0.00	
SM-18277	1.25-in. metal screw, 25	31-Mar-18	172	75	6.99	0.00	21225
SV-22616	2.5-in. self screw, 50	24-Feb-18	227	180	8.45	0.00	21225
VR3/TT3	Steel nutting, 4x9x1.65, 8" stack	17-Jan-18	18	5	119.96	0.10	25595

9. Write a query to count the number of invoices.
10. Write a query to count the number of customers with a balance of more than \$500.
11. Generate a listing of all purchases made by the customers, using the output shown in Figure P7.11 as your guide. Sort the results by customer code, invoice number, and product description.

FIGURE P7.11 LIST OF CUSTOMER PURCHASES

CUS_CODE	INV_NUMBER	INV_DATE	P_DESCRIPTOR	LINE_UNITS	LINE_PRICE
10011	1002	16-Jan-18	Rat-tail file, 1/8-in. fine	2	4.99
10011	1004	17-Jan-18	Claw hammer	2	9.95
10011	1004	17-Jan-18	Rat-tail file, 1/8-in. fine	3	4.99
10011	1008	17-Jan-18	Claw hammer	1	9.95
10011	1008	17-Jan-18	PVC pipe, 3.5-in., 8-ft	5	5.87
10011	1008	17-Jan-18	Steel matting, 4'x8'x1/6", .5" mesh	3	119.95
10012	1003	16-Jan-18	7.25-in. pwr. saw blade	5	14.99
10012	1003	16-Jan-18	B&D cordless drill, 1/2-in.	1	38.95
10012	1003	16-Jan-18	Hrd. cloth, 1/4-in., 2x50	1	39.95
10014	1001	16-Jan-18	7.25-in. pwr. saw blade	1	14.99
10014	1001	16-Jan-18	Claw hammer	1	9.95
10014	1006	17-Jan-18	1.25-in. metal screw, 25	3	6.99
10014	1006	17-Jan-18	B&D jigsaw, 12-in. blade	1	109.92
10014	1006	17-Jan-18	Claw hammer	1	9.95
10014	1006	17-Jan-18	Hicut chain saw, 16 in.	1	256.99
10015	1007	17-Jan-18	7.25-in. pwr. saw blade	2	14.99
10015	1007	17-Jan-18	Rat-tail file, 1/8-in. fine	1	4.99
10018	1005	17-Jan-18	PVC pipe, 3.5-in., 8-ft	12	5.87

12. Using the output shown in Figure P7.12 as your guide, generate a list of customer purchases, including the subtotals for each of the invoice line numbers. The subtotal is a derived attribute calculated by multiplying LINE_UNITS by LINE_PRICE. Sort the output by customer code, invoice number, and product description. Be certain to use the column aliases as shown in the figure.

FIGURE P7.12 SUMMARY OF CUSTOMER PURCHASES WITH SUBTOTALS

CUS_CODE	INV_NUMBER	P_DESCRIPTOR	Units Bought	Unit Price	Subtotal
10011	1002	Rat-tail file, 1/8-in. fine	2	4.99	9.98
10011	1004	Claw hammer	2	9.95	19.90
10011	1004	Rat-tail file, 1/8-in. fine	3	4.99	14.97
10011	1008	Claw hammer	1	9.95	9.95
10011	1008	PVC pipe, 3.5-in., 8-ft	5	5.87	29.35
10011	1008	Steel matting, 4'x8'x1/6", .5" mesh	3	119.95	359.85
10012	1003	7.25-in. pwr. saw blade	5	14.99	74.95
10012	1003	B&D cordless drill, 1/2-in.	1	38.95	38.95
10012	1003	Hrd. cloth, 1/4-in., 2x50	1	39.95	39.95
10014	1001	7.25-in. pwr. saw blade	1	14.99	14.99
10014	1001	Claw hammer	1	9.95	9.95
10014	1006	1.25-in. metal screw, 25	3	6.99	20.97
10014	1006	B&D jigsaw, 12-in. blade	1	109.92	109.92
10014	1006	Claw hammer	1	9.95	9.95
10014	1006	Hicut chain saw, 16 in.	1	256.99	256.99
10015	1007	7.25-in. pwr. saw blade	2	14.99	29.98
10015	1007	Rat-tail file, 1/8-in. fine	1	4.99	4.99
10018	1005	PVC pipe, 3.5-in., 8-ft	12	5.87	70.44

13. Write a query to display the customer code, balance, and total purchases for each customer. Total purchase is calculated by summing the line subtotals (as calculated in Problem 12) for each customer. Sort the results by customer code, and use aliases as shown in Figure P7.13.

FIGURE P7.13 CUSTOMER PURCHASE SUMMARY

CUS_CODE	CUS_BALANCE	Total Purchases
10011	0.00	444.00
10012	345.86	153.85
10014	0.00	422.77
10015	0.00	34.97
10018	216.55	70.44

14. Modify the query in Problem 13 to include the number of individual product purchases made by each customer. (In other words, if the customer's invoice is based on three products, one per LINE_NUMBER, you count three product purchases. Note that in the original invoice data, customer 10011 generated three invoices, which contained a total of six lines, each representing a product purchase.) Your output values must match those shown in Figure P7.14, sorted by customer code.

FIGURE P7.14 CUSTOMER TOTAL PURCHASE AMOUNTS AND NUMBER OF PURCHASES

CUS_CODE	CUS_BALANCE	Total Purchases	Number of Purchases
10011	0.00	444.00	6
10012	345.86	153.85	3
10014	0.00	422.77	6
10015	0.00	34.97	2
10018	216.55	70.44	1

15. Use a query to compute the total of all purchases, the number of purchases, and the average purchase amount made by each customer. Your output values must match those shown in Figure P7.15. Sort the results by customer code.

FIGURE P7.15 AVERAGE PURCHASE AMOUNT BY CUSTOMER

CUS_CODE	CUS_BALANCE	Total Purchases	Number of Purchases	Average Purchase Amount
10011	0.00	444.00	6	74.00
10012	345.86	153.85	3	51.28
10014	0.00	422.77	6	70.46
10015	0.00	34.97	2	17.48
10018	216.55	70.44	1	70.44

16. Create a query to produce the total purchase per invoice, generating the results shown in Figure P7.16, sorted by invoice number. The invoice total is the sum of the product purchases in the LINE that corresponds to the INVOICE.

FIGURE P7.16 INVOICE TOTALS

INV_NUMBER	Invoice Total
1001	24.94
1002	9.98
1003	153.85
1004	34.87
1005	70.44
1006	397.83
1007	34.97
1008	399.15