**Transaction Management & Database Administration**

**CSC317 Database Systems II**

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**SLP 02 - Database Transactions – II**

SET TRANSACTION READ WRITE NAME ‘Customer 10010 purchase;

1. On May 11, 2006, customer 10010 makes a credit purchase (30 days) of one unit of product 11QER/31 with a unit price of $110.00; the tax rate is 8%. The invoice number is 10983, and this invoice has only one product line.

A customer can make many purchases, each one represented by an invoice.

The CUS\_BALANCE is updated with each credit purchase or payment and represents the amount the customer owes.

The CUS\_BALANCE is increased (+) with every credit purchase and decreased (-) with every customer payment.

The date of last purchase is updated with each new purchase made by the customer.

The date of last payment is updated with each new payment made by the customer.

UPDATE CUSTOMER   
SET CUSTOMER.CUS\_BALANCE = CUSTOMER.CUS\_BALANCE + 118.80,

CUSTOMER.CUS\_DATELSTPUR = ‘2006 -05-11’   
WHERE CUSTOMER.CUS\_CODE = 10010;

An invoice represents a product purchase by a customer.

An INVOICE can have many invoice LINEs, one for each product purchased.

The INV\_TOTAL represents the total cost of invoice including taxes.

The INV\_TERMS can be “30”, “60” or “90” (representing the number of days of credit), or “CASH”, “CHECK” or “CC”.

The invoice status can be “OPEN”, “PAID”, or “CANCEL”.

INSERT INTO INVOICE(CUS\_CODE, INV\_DATE, INV\_TOTAL, INV\_TERMS, INV\_STATUS)

VALUES(‘10010’, ‘2006-05-11’, ‘118.80’, ‘30’, ‘OPEN’);

**//this would generate an invoice id and that would be used to create a new Line item… (10983 – given by SLP assignment)**

INSERT INTO LINE(INV\_NUM, P\_CODE, LINE\_UNITS, LINE\_PRICE)

VALUES(‘10983’, ‘11QER/31’, ‘1’, ‘110.00’)

A product’s quantity on hand (P\_QTYOH) is updated (decreased) with each product sale.

UPDATE PRODUCT

SET P\_QTYOH = P\_QTYOH – 1;

WHERE P\_CODE = 11QER/31;

A customer can make many payments. The payment type (PMT\_TYPE) can be one of the following:

“CASH” for cash payments.

“CHECK” for check payments.

“CC” for credit card payments.

* 1. On June 3, 2006, customer 10010 makes a payment of $100 in cash. The payment ID is 3428.

//assuming a payment was already made because a payment ID already exists for this transaction, I would want to create another payment with a new id and all new fields.

// My original thoughts would be to make the UPDATE WHERE the //PAYMENTS.CUS\_CODE = our particular customer’s code of, 10010

//DOING AN UPDATE – because there is a payment ID

UPDATE PAYMENTS

SET PMT\_AMT = 100

WHERE PMT\_ID = 3428

COMMIT;

//CODE TO EXECUTE IF THIS WERE TO BE AN INSERT

//NOTE: No payment details are necessary because this is a cash payment.

INSERT INTO PAYMENTS(PMT\_ID, PMT\_DATE, CUS\_CODE, PMT\_AMT, PMT\_TYPE)

VALUES(‘3428’,‘100’,’2006-06-03’, ‘10010’, ‘100’, ‘CASH’)

COMMIT;

Create a simple transaction log (using the same format as that in the case assignment) to represent the actions of the two previous transactions.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TRL**  **ID** | **TRX**  **NUM** | **PREV**  **PTR** | **NEXT**  **PTR** | **OPERATION** | **TABLE** | **ROW**  **ID** | **ATTRI-BUTE** | **BEFORE**  **VALUE** | **AFTER**  **VALUE** |
| 341 | 101 | Null | 352 | START | \*\*\*\*Start Transaction |  |  |  |  |
| 352 | 101 | 341 | 355 | UPDATE | CUSTOMER | 10010 | CUS\_  BALANCE | CUS\_  BALANCE | CUS\_  BAL…  + 118.80 |
|  |  |  |  |  | CUSTOMER | 10010 | CUS\_  DATE-  LASTPUR |  | ‘2006-  05-11’ |
| 355 | 101 | 352 | 363 | INSERT | INVOICE |  | CUS\_  CODE |  | 10010 |
|  |  |  |  |  | INVOICE |  | INV\_  DATE |  | ‘2006-05-11’ |
|  |  |  |  |  | INVOICE |  | INV\_  TOTAL |  | ‘118.80’ |
|  |  |  |  |  | INVOICE |  | INV\_  TERMS |  | ‘30’ |
|  |  |  |  |  | INVOICE |  | INV\_  STATUS |  | ‘OPEN’ |
| 363 | 101 | 352 | 365 | INSERT | LINE |  | INV\_  NUM |  | ‘10983’ |
|  |  |  |  |  | LINE |  | P\_  CODE |  | ‘11QER/31’ |
|  |  |  |  |  | LINE |  | LINE\_  UNITS |  | ‘1’ |
|  |  |  |  |  | LINE |  | LINE\_  PRICE |  | ‘110.00’ |
| 365 | 101 | 363 | 369 | UPDATE | PRODUCT | 10012 | P\_  QTYOH | P\_  QTYOH | P\_  QTYOH   * 1   (subtract) |
| 369 | 101 | 376 | 373 | UPDATE | PAYMENTS | 3428 | PMT\_AMT | PMT\_  AMT | PMT\_  AMT  + 100  (addition) |
| 373 | 101 | 420 | NULL | COMMIT | \*\*\*\*End of Transaction |  |  |  |  |