# A. Revised Script for creating database:

```
--Script to create exercise database
    .echo ON
    .output CateDunham_Tutorial01_out.txt
    PRAGMA foreign_keys = ON;
    DROP TABLE IF EXISTS order_detail;
    DROP TABLE IF EXISTS shipment_line;
    DROP TABLE IF EXISTS shipment;
    DROP TABLE IF EXISTS inventory;
   DROP TABLE IF EXISTS color;
    DROP TABLE IF EXISTS item;
    DROP TABLE IF EXISTS category;
    DROP TABLE IF EXISTS orders;
    DROP TABLE IF EXISTS customer;
    CREATE TABLE Customer
    (c_id CHAR(10),
c_last VARCHAR(30),
   c_first VARCHAR(30),
30 c_middle VARCHAR(30),
31 c dob DATE.
   c_dob DATE,
c_addr_line1 VARCHAR(30),
c_addr_line2 VARCHAR(30),
   c_addr_comments VARCHAR(30),
C_add__Comments VARCHAR(30),

c_city VARCHAR(30),

c_state CHAR(2),

C_zip VARCHAR(10),

c_ephone VARCHAR(10),

c_userid VARCHAR(10),

c_password VARCHAR(15),
    CONSTRAINT customer_c_id_pk PRIMARY KEY (c_id));
```

```
(ord_id
                        CHAR(10),
    ord date
    ord c id
    Ord_methodof_payment
    Ord_methodof_order VARCHAR(8),
    Ord_methodof_delivery VARCHAR(10),
CONSTRAINT orders_ord_id_pk PRIMARY KEY (ord_id),
CONSTRAINT orders_c_id_fk FOREIGN KEY (ord_c_id) REFERENCES customer(c_id));
    CREATE TABLE Category
    cat_desc NVARCHAR2(10),
CONSTRAINT category_cat_id_pk PRIMARY KEY (cat_id));
9 (item_id
      item_desc
     item_cat_id
    CONSTRAINT item id pk PRIMARY KEY (item id),
    CONSTRAINT item_cat_id_fk FOREIGN KEY (item_cat_id) REFERENCES category(cat_id));
    CREATE TABLE Color
     CONSTRAINT color_code_pk PRIMARY KEY (color_code));
     inv_item_id
     inv size
      inv item price
      CONSTRAINT inv_id_pk PRIMARY KEY (inv_id),
    CONSTRAINT inv_item_id_fk FOREIGN KEY (inv_item_id) REFERENCES item(item_id), CONSTRAINT inv_color_fk FOREIGN KEY (inv_color) REFERENCES Color(color_code));
    CREATE TABLE shipment
     ship_address VARCHAR(20),
    ship_date_expected DATE,
```

```
CONSTRAINT shipment_ship_id_pk PRIMARY KEY (ship_id));
     CREATE TABLE shipment_line
     (ship id INTEGER.
     inv_id INTEGER,
     sl_quantity INTEGER
     sl_date_received DATE
    CONSTRAINT shipment line ship id fk FOREIGN KEY (ship id) REFERENCES shipment(ship id).
    CONSTRAINT shipment_line_inv_id_fk FOREIGN KEY (inv_id) REFERENCES inventory(inv_id),
     CONSTRAINT shipment_line_shipid_invid_pk PRIMARY KEY(ship_id, inv_id));
    CREATE TABLE order detail
96 \vee (od o id CHAR(10),
     od_inv_id INTEGER,
    CONSTRAINT order_detail_o_id_fk FOREIGN KEY (od_o_id) REFERENCES orders(ord_id),
CONSTRAINT order_detail_inv_id_fk FOREIGN KEY (od_inv_id) REFERENCES inventory(inv_id),
     CONSTRAINT order_detail_oid_invid_pk PRIMARY KEY (od_o_id, od_inv_id));
     INSERT INTO CUSTOMER VALUES
     INSERT INTO CUSTOMER VALUES
     INSERT INTO CUSTOMER VALUES
     INSERT INTO CUSTOMER VALUES
     (4, 'Eleanor', 'Loiacono', 'T', date('1981-01-18'), '994 Kirkman Rd.', NULL, NULL, 'Northpoint', 'NY', '11795', '4825554788', 'eleanorlt', 'hold98er');
     INSERT INTO CUSTOMER VALUES
     INSERT INTO CUSTOMER VALUES
```

No edits made to record insertion on orders, CATEGORY, item, color or inventory.

```
--inserting records into SHIPMENT

INSERT INTO shipment VALUES
(1, NULL, DATE('2006-09-15'));

INSERT INTO shipment VALUES
(2, NULL, DATE('2006-11-15'));

INSERT INTO shipment VALUES
(3, NULL, DATE('2006-06-25'));

INSERT INTO shipment VALUES
(4, NULL, DATE('2006-06-25'));

INSERT INTO shipment VALUES
(5, NULL, DATE('2006-08-15'));
```

```
332 --- inserting records into order_detail
333 INSERT INTO order_detail VALUES (1, 1, 1);
334 INSERT INTO order_detail VALUES (1, 14, 2);
335 INSERT INTO order_detail VALUES (2, 19, 1);
336 INSERT INTO order_detail VALUES (3, 24, 1);
337 INSERT INTO order_detail VALUES (3, 26, 1);
338 INSERT INTO order_detail VALUES (4, 12, 2);
339 INSERT INTO order_detail VALUES (5, 8, 1);
340 INSERT INTO order_detail VALUES (5, 13, 1);
341 INSERT INTO order_detail VALUES (6, 2, 1);
342 INSERT INTO order_detail VALUES (6, 7, 3);
343
344 .output stdout
345 .echo OFF
```

# B. Output from running script:

.open TUT1.db

PRAGMA foreign\_keys = ON;

```
DROP TABLE IF EXISTS order_detail;
DROP TABLE IF EXISTS shipment_line;
DROP TABLE IF EXISTS shipment;
DROP TABLE IF EXISTS inventory;
DROP TABLE IF EXISTS color;
DROP TABLE IF EXISTS item;
DROP TABLE IF EXISTS category;
DROP TABLE IF EXISTS orders;
DROP TABLE IF EXISTS customer;
```

## **CREATE TABLE Customer**

```
(c_id CHAR(10),
c_last VARCHAR(30),
c_first VARCHAR(30),
c_middle VARCHAR(30),
c_dob DATE,
c_addr_line1 VARCHAR(30),
c_addr_line2 VARCHAR(30),
c_addr_comments VARCHAR(30),
```

c\_city VARCHAR(30),

c\_state CHAR(2),

c\_zip VARCHAR(10),

c\_ephone VARCHAR(10),

c\_userid VARCHAR(10), c\_password VARCHAR(15),

CONSTRAINT customer\_c\_id\_pk PRIMARY KEY (c\_id));

## **CREATE TABLE Orders**

(ord\_id CHAR(10),

ord\_date DATE,

ord\_c\_id CHAR(10),

Ord\_methodof\_payment VARCHAR(10),

Ord\_methodof\_order VARCHAR(8),

Ord\_methodof\_delivery VARCHAR(10),

CONSTRAINT orders\_ord\_id\_pk PRIMARY KEY (ord\_id),

CONSTRAINT orders\_c\_id\_fk FOREIGN KEY (ord\_c\_id) REFERENCES customer(c\_id));

## **CREATE TABLE Category**

(cat\_id CHAR(3),

cat desc NVARCHAR2(10),

CONSTRAINT category\_cat\_id\_pk PRIMARY KEY (cat\_id));

#### **CREATE TABLE Item**

(item\_id CHAR(4),

item\_desc VARCHAR(30),

item\_cat\_id CHAR(3),

CONSTRAINT item\_id\_pk PRIMARY KEY (item\_id),

CONSTRAINT item\_cat\_id\_fk FOREIGN KEY (item\_cat\_id) REFERENCES category(cat\_id));

#### **CREATE TABLE Color**

(color\_code VARCHAR(20),

CONSTRAINT color\_code\_pk PRIMARY KEY (color\_code));

#### CREATE TABLE Inventory

(inv id INTEGER,

inv\_item\_id CHAR(4),

inv\_color VARCHAR(20),

```
inv size
              CHAR(5),
inv_item_price
                 DECIMAL(7,2),
inv_QOH
               INTEGER,
CONSTRAINT inv_id_pk PRIMARY KEY (inv_id),
CONSTRAINT inv_item_id_fk FOREIGN KEY (inv_item_id) REFERENCES item(item_id),
CONSTRAINT inv_color_fk FOREIGN KEY (inv_color) REFERENCES Color(color_code));
CREATE TABLE shipment
(ship id INTEGER,
ship_address VARCHAR(20),
ship_date_expected DATE,
CONSTRAINT shipment ship id pk PRIMARY KEY (ship id));
CREATE TABLE shipment line
(ship id INTEGER,
inv_id INTEGER,
sl_quantity INTEGER,
sl_date_received DATE,
CONSTRAINT shipment_line_ship_id_fk FOREIGN KEY (ship_id) REFERENCES
shipment(ship id),
CONSTRAINT shipment line inv id fk FOREIGN KEY (inv id) REFERENCES
inventory(inv id),
CONSTRAINT shipment line shipid invid pk PRIMARY KEY(ship id, inv id));
```

CREATE TABLE order\_detail
(od\_o\_id CHAR(10),
od\_inv\_id INTEGER,
od\_quantity INTEGER NOT NULL,
CONSTRAINT order\_detail\_o\_id\_fk FOREIGN KEY (od\_o\_id) REFERENCES orders(ord\_id),
CONSTRAINT order\_detail\_inv\_id\_fk FOREIGN KEY (od\_inv\_id) REFERENCES
inventory(inv\_id),
CONSTRAINT order\_detail\_oid\_invid\_pk PRIMARY KEY (od\_o\_id, od\_inv\_id));

--- inserting records into CUSTOMER
INSERT INTO CUSTOMER VALUES

(1, 'Tulu', 'Bengisu', NULL, date('1967-12-10'), '9815 Circle Dr.', NULL, NULL, 'Tallahassee', 'FL', '32308', '9045551897', 'tulub', 'barbiecar');

#### **INSERT INTO CUSTOMER VALUES**

(2, 'Elmes', 'Michael', 'B', date('1958-08-14'), '172 Alto Park', NULL, NULL, 'Seattle', 'WA','42180', '4185551791', 'elmesmb', 'qwert5');

## **INSERT INTO CUSTOMER VALUES**

(3, 'Strong', 'Diana', 'M', date('1960-04-12'), '850 East Main', NULL, NULL, 'Santa Ana', 'MA', '51875', '3075557841', 'strongdm', 'joshua5');

#### **INSERT INTO CUSTOMER VALUES**

(4, 'Eleanor', 'Loiacono', 'T', date('1981-01-18'), '994 Kirkman Rd.', NULL, NULL, 'Northpoint', 'NY', '11795', '4825554788', 'eleanorlt', 'hold98er');

## **INSERT INTO CUSTOMER VALUES**

(5, 'Wulf', 'Sharon', 'A', date('1978-08-30'), '195 College Blvd.', NULL, NULL, 'Newton', 'GA', '37812', '3525554972', 'wulfsa', '125pass');

## **INSERT INTO CUSTOMER VALUES**

(6, 'Wilkinson', 'Norm', 'D', date('1973-06-01'), '348 Rice Lane', NULL, NULL, 'Radcliff', 'WY', '87195', '7615553485', 'wilkinsonnd', 'nok\$tell');

## --- inserting records into orders

#### **INSERT INTO orders VALUES**

(1, DATE('2012-05-29'), 1, 'CC', 'Phone', 'UPS');

## **INSERT INTO orders VALUES**

(2, DATE('2012-05-29'), 5, 'CC', 'Phone', 'USPS');

#### **INSERT INTO orders VALUES**

(3, DATE('2012-05-31'), 2, 'CHECK', 'F2F', 'CUST');

## **INSERT INTO orders VALUES**

(4, DATE('2012-05-31'), 3, 'CC', 'Web', 'UPS');

## **INSERT INTO orders VALUES**

(5, DATE('2012-06-01'), 4, 'CC', 'F2F', 'CUST');

#### **INSERT INTO orders VALUES**

```
(6, DATE('2012-06-01'), 6, 'CC', 'Web', 'FedEx');
--- inserting records into CATEGORY
INSERT INTO category VALUES (1, 'Organization');
INSERT INTO category VALUES (2, 'Paper');
INSERT INTO category VALUES (3, 'Office supplies');
INSERT INTO category VALUES (4, 'Furniture');
--- inserting records into ITEM
INSERT INTO item VALUES
(1, 'Pencil', 3);
INSERT INTO item VALUES
(2, 'Desk', 4);
INSERT INTO item VALUES
(3, 'Binder', 1);
INSERT INTO item VALUES
(4, 'Folder', 1);
INSERT INTO item VALUES
(5, 'Notebook', 2);
INSERT INTO item VALUES
(6, 'Post-it Notes', 2);
INSERT INTO item VALUES
(7, 'chair', 4);
--- inserting records into COLOR
INSERT INTO color VALUES ('Sky Blue');
INSERT INTO color VALUES ('Light Grey');
INSERT INTO color VALUES ('Khaki');
INSERT INTO color VALUES ('Navy');
INSERT INTO color VALUES ('Royal');
INSERT INTO color VALUES ('Eggplant');
INSERT INTO color VALUES ('Blue');
```

INSERT INTO color VALUES ('Red'); INSERT INTO color VALUES ('Spruce'); INSERT INTO color VALUES ('Turquoise'); INSERT INTO color VALUES ('Bright Pink'); INSERT INTO color VALUES ('White');

--- inserting records into INVENTORY INSERT INTO inventory VALUES (1, 2, 'Sky Blue', NULL, 259.99, 16);

INSERT INTO inventory VALUES (2, 2, 'Light Grey', NULL, 259.99, 12);

INSERT INTO inventory VALUES (3, 3, 'Khaki', 'S', 29.95, 150);

INSERT INTO inventory VALUES (4, 3, 'Khaki', 'M', 29.95, 147);

INSERT INTO inventory VALUES (5, 3, 'Khaki', 'L', 29.95, 0);

INSERT INTO inventory VALUES (6, 3, 'Navy', 'S', 29.95, 139);

INSERT INTO inventory VALUES (7, 3, 'Navy', 'M', 29.95, 137);

INSERT INTO inventory VALUES (8, 3, 'Navy', 'L', 29.95, 115);

INSERT INTO inventory VALUES (9, 4, 'Eggplant', 'S', 59.95, 135);

INSERT INTO inventory VALUES (10, 4, 'Eggplant', 'M', 59.95, 168);

**INSERT INTO inventory VALUES** 

```
(11, 4, 'Eggplant', 'L', 59.95, 187);
```

INSERT INTO inventory VALUES (12, 4, 'Royal', 'S', 59.95, 0);

INSERT INTO inventory VALUES (13, 4, 'Royal', 'M', 59.95, 124);

INSERT INTO inventory VALUES (14, 4, 'Royal', 'L', 59.95, 112);

INSERT INTO inventory VALUES (15, 5, 'Turquoise', '10', 15.99, 121);

INSERT INTO inventory VALUES (16, 5, 'Turquoise', '11', 15.99, 111);

INSERT INTO inventory VALUES (17, 5, 'Turquoise', '12', 15.99, 113);

INSERT INTO inventory VALUES (18, 5, 'Turquoise', '1', 15.99, 121);

INSERT INTO inventory VALUES (19, 5, 'Bright Pink', '10', 15.99, 148);

INSERT INTO inventory VALUES (20, 5, 'Bright Pink', '11', 15.99, 137);

INSERT INTO inventory VALUES (21, 5, 'Bright Pink', '12', 15.99, 134);

INSERT INTO inventory VALUES (22, 5, 'Bright Pink', '1', 15.99, 123);

INSERT INTO inventory VALUES (23, 1, 'Spruce', 'S', 199.95, 114);

INSERT INTO inventory VALUES (24, 1, 'Spruce', 'M',199.95, 17);

INSERT INTO inventory VALUES (25, 1, 'Spruce', 'L', 209.95, 0);

INSERT INTO inventory VALUES (26, 1, 'Spruce', 'XL', 209.95, 12);

INSERT INTO inventory VALUES (27, 6, 'Blue', 'S', 15.95, 50);

INSERT INTO inventory VALUES (28, 6, 'Blue', 'M', 15.95, 100);

INSERT INTO inventory VALUES (29, 6, 'Blue', 'L', 15.95, 100);

INSERT INTO inventory VALUES (30, 7, 'White', 'S', 19.99, 100);

INSERT INTO inventory VALUES (31, 7, 'White', 'M', 19.99, 100);

INSERT INTO inventory VALUES (32, 7, 'White', 'L', 19.99, 100);

--inserting records into SHIPMENT

INSERT INTO shipment VALUES (1, NULL, DATE('2006-09-15'));

INSERT INTO shipment VALUES (2, NULL, DATE('2006-11-15'));

INSERT INTO shipment VALUES (3, NULL, DATE('2006-06-25'));

INSERT INTO shipment VALUES (4, NULL, DATE('2006-06-25'));

INSERT INTO shipment VALUES (5, NULL, DATE('2006-08-15'));

--inserting records into SHIPMENT\_LINE INSERT INTO shipment\_line VALUES (1, 1, 25, DATE('2006-09-10'));

INSERT INTO shipment\_line VALUES (1, 2, 25, DATE('2006-09-10'));

INSERT INTO shipment\_line VALUES (2, 2, 25, NULL);

INSERT INTO shipment\_line VALUES (3, 5, 200, NULL);

INSERT INTO shipment\_line VALUES (3, 6, 200, NULL);

INSERT INTO shipment\_line VALUES (3, 7, 200, NULL);

INSERT INTO shipment\_line VALUES (4, 12, 100, DATE('2012-08-15'));

INSERT INTO shipment\_line VALUES (4, 13, 100, DATE('2012-08-25'));

INSERT INTO shipment\_line VALUES (5, 23, 50, DATE('2012-08-15'));

INSERT INTO shipment\_line VALUES (5, 24, 100, DATE('2012-08-15'));

INSERT INTO shipment\_line VALUES

```
(5, 25, 100, DATE('2012-08-15'));

--- inserting records into order_detail
INSERT INTO order_detail VALUES (1, 1, 1);
INSERT INTO order_detail VALUES (1, 14, 2);
INSERT INTO order_detail VALUES (2, 19, 1);
INSERT INTO order_detail VALUES (3, 24, 1);
INSERT INTO order_detail VALUES (3, 26, 1);
INSERT INTO order_detail VALUES (4, 12, 2);
INSERT INTO order_detail VALUES (5, 8, 1);
INSERT INTO order_detail VALUES (6, 2, 1);
INSERT INTO order_detail VALUES (6, 2, 1);
INSERT INTO order_detail VALUES (6, 2, 1);
INSERT INTO order_detail VALUES (6, 7, 3);
```

## .output stdout

2 2

## C. Script/Output for SQL Queries

Elmes Michael B

List the customer id, name (last, first, and middle), date of birth (DOB), and address (address, city, state, and zip) for customers whose city is Seattle or whose state is FL

```
SELECT c_id, c_last, c_first, c_middle, c_dob, c_addr_line1, c_city, c_state, c_zip
1
     FROM Customer
     WHERE c city = 'Seattle' OR c state = 'FL';
                  c_first
   c_id c_last
                           c_middle
                                        c_dob
                                                       c_addr_line1
                                                                           c_city
                                                                                      c_state
                                                                                               c_zip
1 1
        Tulu Bengisu NULL
                                    1967-12-10 9815 Circle Dr. Tallahassee FL
                                                                                              32308
```

1958-08-14 172 Alto Park

Seattle

WA

42180

For the items on order, list the order id, the inventory id, and the quantity ordered for those items whose quantity ordered is less than 2

```
SELECT od_o_id as "OrderID", od_inv_id as "InventoryID", od_quantity as "QuantityOrdered"
FROM order_detail
WHERE od_quantity < 2;</pre>
```

	OrderID	InventoryID	QuantityOrdered
1	1	1	1
2	2	19	1
3	3	24	1
4	3	26	1
5	5	8	1
6	5	13	1
7	6	2	1

List all the orders (include order id, order date, and order payment method (PMTMETH) whose payment method is not check

```
SELECT ord_id as "OrderID", ord_date as "OrderDate", Ord_methodof_payment as "PaymentMethod"
FROM Orders
WHERE Ord_methodof_payment != "CHECK";
```

	OrderID	OrderDate	PaymentMethod
1	1	2012-05-29	CC
2	2	2012-05-29	CC
3	4	2012-05-31	CC
4	5	2012-06-01	CC
5	6	2012-06-01	CC

List the total value of the inventory for all inventory items whose color is navy

```
SELECT SUM(inv_item_price * inv_QOH) as "ValueofNavyInventory"
FROM Inventory
WHERE inv_color = "Navy";

ValueofNavyInventory
1 11710.45
```

List the number of customer orders that are in the database

```
SELECT COUNT(ord_id) as "TotalCustomerOrders"
FROM Orders;

TotalCustomerOrders
1 6
```

List the average price and average quantity on hand (QOH) of all inventory items.

```
SELECT AVG(inv_item_price) as "AvgPrice", AVG(inv_QOH) as "AvgQOH"
FROM Inventory;

AvgPrice AvgQOH
1 66.09125 98.21875
```