Course: CSCI4140 Advanced Databases  
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# Assignment 1:

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## Section 1: ER Diagram

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Section 2: SQL Script Table Creation

-- MySQL Workbench Forward Engineering

SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0;

SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0;

SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='ONLY\_FULL\_GROUP\_BY,STRICT\_TRANS\_TABLES,NO\_ZERO\_IN\_DATE,NO\_ZERO\_DATE,ERROR\_FOR\_DIVISION\_BY\_ZERO,NO\_ENGINE\_SUBSTITUTION';

-- -----------------------------------------------------

-- Schema csci4140\_assn1\_771

-- -----------------------------------------------------

CREATE SCHEMA IF NOT EXISTS `csci4140\_assn1\_771` DEFAULT CHARACTER SET utf8 ;

USE `csci4140\_assn1\_771` ;

-- -----------------------------------------------------

-- Table `csci4140\_assn1\_771`.`clients771`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `csci4140\_assn1\_771`.`clients771` (

  `clientId771` INT(11) NOT NULL,

  `clientName771` VARCHAR(255) NULL DEFAULT NULL,

  `clientCity771` VARCHAR(255) NULL DEFAULT NULL,

  `clientCompPassword771` VARCHAR(255) NULL DEFAULT NULL,

  `dollarsOnOrder771` DECIMAL(64,2) NOT NULL DEFAULT '0.00',

  `moneyOwed771` DECIMAL(64,2) NULL DEFAULT '0.00',

  `clientStatus771` VARCHAR(255) NULL DEFAULT NULL,

  PRIMARY KEY (`clientId771`))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

-- -----------------------------------------------------

-- Table `csci4140\_assn1\_771`.`parts771`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `csci4140\_assn1\_771`.`parts771` (

  `partNo771` INT(11) NOT NULL,

  `partName771` VARCHAR(255) NULL DEFAULT NULL,

  `partDescription771` VARCHAR(255) NULL DEFAULT NULL,

  `currentPrice771` DECIMAL(64,2) NOT NULL DEFAULT '0.00',

  `quantityOnHand771` INT(64) NOT NULL DEFAULT '0',

  PRIMARY KEY (`partNo771`))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

-- -----------------------------------------------------

-- Table `csci4140\_assn1\_771`.`purchaseorder771`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `csci4140\_assn1\_771`.`purchaseorder771` (

  `poNo771` INT(11) NOT NULL,

  `datePO771` DATETIME NULL DEFAULT CURRENT\_TIMESTAMP,

  `status771` VARCHAR(255) NULL DEFAULT NULL,

  `clientId771` INT(11) NULL,

  PRIMARY KEY (`poNo771`),

  INDEX `FOREIGN\_CLIENTS771` USING BTREE (`clientId771`) VISIBLE,

  CONSTRAINT `purchaseorder771\_fk\_clients771`

    FOREIGN KEY (`clientId771`)

    REFERENCES `csci4140\_assn1\_771`.`clients771` (`clientId771`))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

-- -----------------------------------------------------

-- Table `csci4140\_assn1\_771`.`line771`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `csci4140\_assn1\_771`.`line771` (

  `poNo771` INT(11) NOT NULL,

  `partNo771` INT(11) NULL,

  `quantity771` INT(11) NOT NULL DEFAULT '0',

  `lineId771` INT(11) NOT NULL AUTO\_INCREMENT,

  `lineNo771` INT(11) NOT NULL,

  PRIMARY KEY (`lineId771`),

  INDEX `FOREIGN\_PURCHASEORDER771` USING BTREE (`poNo771`) VISIBLE,

  INDEX `line771\_fk\_parts771` (`partNo771` ASC) VISIBLE,

  CONSTRAINT `line771\_fk\_parts771`

    FOREIGN KEY (`partNo771`)

    REFERENCES `csci4140\_assn1\_771`.`parts771` (`partNo771`),

  CONSTRAINT `line771\_fk\_purchaseorders771`

    FOREIGN KEY (`poNo771`)

    REFERENCES `csci4140\_assn1\_771`.`purchaseorder771` (`poNo771`))

ENGINE = InnoDB

AUTO\_INCREMENT = 46

DEFAULT CHARACTER SET = utf8;

USE `csci4140\_assn1\_771` ;

-- -----------------------------------------------------

-- procedure GetPartCurrentPrice771

-- -----------------------------------------------------

DELIMITER ;

SET SQL\_MODE=@OLD\_SQL\_MODE;

SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS;

SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS;

## Section 3: Sample Scripts

### Trigger:

DELIMITER $$

USE `csci4140\_assn1\_771`$$

CREATE

DEFINER=`root`@`localhost`

TRIGGER `csci4140\_assn1\_771`.`updateMoneyOwed771`

AFTER INSERT ON `csci4140\_assn1\_771`.`line771`

FOR EACH ROW

BEGIN

    DECLARE totalAmount DECIMAL(64,2);

    DECLARE lineCount INT;

    DECLARE counter INT DEFAULT 1;

    SELECT COUNT(\*) INTO lineCount FROM line771 WHERE poNo771 = NEW.poNo771;

        SET totalAmount = 0;

    WHILE counter <= lineCount DO

        SELECT (p.currentPrice771 \* l.quantity771)

        INTO totalAmount

        FROM line771 l

        JOIN parts771 p ON l.partNo771 = p.partNo771

        WHERE l.poNo771 = NEW.poNo771 AND l.lineNo771 = counter;

        SET counter = counter + 1;

    END WHILE;

    UPDATE clients771

    SET moneyOwed771 = moneyOwed771 + totalAmount

    WHERE clientId771 = (SELECT clientId771 FROM purchaseorder771 WHERE poNo771 = NEW.poNo771);

END$$

### Stored Procedure:

DELIMITER $$

USE `csci4140\_assn1\_771`$$

CREATE DEFINER=`root`@`localhost` PROCEDURE `GetPartCurrentPrice771`(IN `PartID` INT, OUT `CurrentPrice` DECIMAL(10,2))

BEGIN

    SELECT currentPrice771 INTO CurrentPrice

    FROM parts771

    WHERE partNo771 = PartID;

END$$

### Tuple Insertion:

#### Client Table:

--

-- Dumping data for table `clients771`

--

INSERT INTO `clients771` (`clientId771`, `clientName771`, `clientCity771`, `clientCompPassword771`, `dollarsOnOrder771`, `moneyOwed771`, `clientStatus771`) VALUES

(1, 'James McLean', 'Halifax', 'password123', '1000.00', '853.58', 'Active'),

(2, 'Liam Osler', 'Halifax', 'password123', '1599.00', '69.69', 'Active'),

(3, 'Red Green', 'Ontario', 'password123', '10000.00', '5078.10', 'Active'),

(4, 'Martha Stewart', 'Los Angeles', 'password123', '20000.00', '10000.00', 'Active'),

(5, 'Snoop Dogg', 'Los Angeles', 'password123', '50000.00', '20000.00', 'Active'),

(6, 'Eric Andre', 'Los Angeles', 'password123', '6999.00', '699.00', 'MIA');

#### Line Table:

-- Dumping data for table `line771`

--

INSERT INTO `line771` (`poNo771`, `partNo771`, `quantity771`, `lineId771`, `lineNo771`) VALUES

(2, 1, 30, 25, 1),

(2, 2, 50, 26, 2),

(2, 3, 10, 27, 3),

(3, 1, 10, 28, 1),

(3, 2, 10, 29, 2),

(3, 3, 10, 30, 3),

(4, 1, 10, 31, 1),

(4, 2, 10, 32, 2),

(4, 3, 10, 33, 3),

(5, 1, 1, 34, 1),

(5, 2, 1, 35, 2),

(5, 3, 1, 36, 3),

(6, 1, 1, 37, 1),

(6, 2, 1, 38, 2),

(6, 3, 1, 39, 3),

(7, 1, 30, 40, 1),

(7, 2, 50, 41, 2),

(7, 3, 10, 42, 3),

(8, 1, 30, 43, 1),

(8, 2, 50, 44, 2),

(8, 3, 10, 45, 3);

#### Parts Table:

--

-- Dumping data for table `parts771`

--

INSERT INTO `parts771` (`partNo771`, `partName771`, `partDescription771`, `currentPrice771`, `quantityOnHand771`) VALUES

(1, '3/8inch Bolt', 'A high-quality bolt', '0.69', 10000),

(2, '3/8inch Carriage Bolt', 'A durable bolt', '0.99', 500000),

(3, '3/8inch Self-Tapping Screw', 'Goes into metal good', '0.79', 19000),

(4, '3/8inch Washer',

#### Purchase Orders Table:

--

-- Dumping data for table `purchaseorder771`

--

INSERT INTO `purchaseorder771` (`poNo771`, `datePO771`, `status771`, `clientId771`) VALUES

(1, '2023-05-20 19:34:13', 'Pending', 1),

(2, '2023-05-20 19:38:28', 'Pending', 1),

(3, '2023-05-20 19:43:09', 'Pending', 1),

(4, '2023-05-20 19:44:18', 'Pending', 1),

(5, '2023-05-20 19:49:07', 'Pending', 1),

(6, '2023-05-20 19:51:18', 'Pending', 1),

(7, '2023-05-20 19:57:32', 'Pending', 1),

(8, '2023-05-20 19:58:19', 'Pending', 3);

## Section 4: Screenshots

### Trigger:

#### Before: A screenshot of a computer Description automatically generated with medium confidence

#### Insert Statement:

-- Insert the purchase order

INSERT INTO `purchaseorder771` (`poNo771`, `datePO771`, `status771`, `clientId771`)

VALUES (9, NOW(), 'Pending', 2);

-- Insert the lines for the purchase order

INSERT INTO `line771` (`poNo771`, `partNo771`, `quantity771`, `lineNo771`)

VALUES

(9, 1, 1000, 1), -- Adjusted quantity to reach the desired total

(9, 2, 1000, 2), -- Adjusted quantity to reach the desired total

(9, 3, 1000, 3);  -- Adjusted quantity to reach the desired total

#### Result:

A screenshot of a computer

Description automatically generated with medium confidence

### Stored Procedure:

#### Procedure Call:

SET @Price = NULL;

CALL GetPartCurrentPrice771(1, @Price);

SELECT @Price AS CurrentPrice;

#### Result:

A screenshot of a computer program

Description automatically generated with low confidence

#### :

### Insert Client:

#### Statement:

--

-- Adding client data for table `clients771`

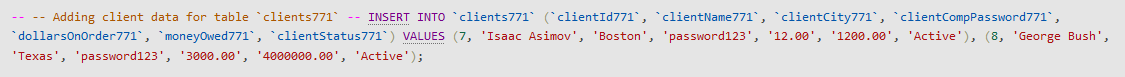
--

INSERT INTO `clients771` (`clientId771`, `clientName771`, `clientCity771`, `clientCompPassword771`, `dollarsOnOrder771`, `moneyOwed771`, `clientStatus771`) VALUES

(7, 'Isaac Asimov', 'Boston', 'password123', '12.00', '1200.00', 'Active'),

(8, 'George Bush', 'Texas', 'password123', '3000.00', '4000000.00', 'Active');

#### PhpMyAdmin Response:



#### Result:

A screenshot of a computer

Description automatically generated with medium confidence

### Insert Part:

#### Statement:

--

-- Dumping data for table `parts771`

--

INSERT INTO `parts771` (`partNo771`, `partName771`, `partDescription771`, `currentPrice771`, `quantityOnHand771`) VALUES

(5, 'Flux Capacitor', 'A highly reactive banana receptor', '80808080.80', 1),

(6, 'Transwarp Coil', 'Borg techonology for subspace warp engines', '1010101010.10', 12),

(7, 'Repulsor C-2000 Class', 'Pod racer acceleration technology', '9999.99', 500);

#### PhpMyAdmin Response:



#### Result:

A screenshot of a computer

Description automatically generated with medium confidence

### Client/Purchase Order/Line:

#### Before (Client):

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Description automatically generated with medium confidence

#### Before (Line):

A screenshot of a table

Description automatically generated with low confidence

#### Before (Purchase Order):

A screenshot of a computer

Description automatically generated with medium confidence

#### Statement:

INSERT INTO purchaseorder771 (poNo771, datePO771, status771, clientId771)

VALUES (11, CURRENT\_TIMESTAMP, 'Pending', 1);

-- Step 2: Insert Lines into Line Table

INSERT INTO line771 (lineNo771, poNo771, partNo771, quantity771)

VALUES

  (1, 11, 6, 1),

  (2, 11, 7, 4)

;

#### PhpMyAdmin Response:

A screenshot of a computer

Description automatically generated with low confidence

#### Result(Client):

A screenshot of a computer

Description automatically generated with low confidence

#### Result (Line):

A screenshot of a table

Description automatically generated with low confidence

#### Result (Purchase Order):

A screenshot of a computer

Description automatically generated with medium confidence