

PROGRAM 6. ORDER PROCESSING DATABASE

Consider the following relations for an Order Processing database application in a company.

CUSTOMER (CUST #: int, cname: String, city: String)

ORDER (order #: int, odate: date, cust #: int, ord-Amt: int)

ITEM (item #: int, unit-price: int)

ORDER-ITEM (order #: int, item #: int, qty: int)

WAREHOUSE (warehouse #: int, city: String)

SHIPMENT (order #: int, warehouse #: int, ship-date: date)

- i. Create the above tables by properly specifying the primary keys and the foreign keys and the foreign keys.

```
CREATE TABLE `order_processing`.`customer` ( `cust` INT NOT NULL , `cname` VARCHAR(50) NOT NULL , `city` VARCHAR(50) NOT NULL , PRIMARY KEY (`cust`));
```

```
CREATE TABLE `order_processing`.`item` ( `item#` INT NOT NULL , `unit-price` INT NOT NULL , PRIMARY KEY (`item#`));
```

```
CREATE TABLE `order_processing`.`warehouse` ( `warehouse#` INT NOT NULL , `city` VARCHAR(50) NOT NULL , PRIMARY KEY (`warehouse#`)) ;
```

```
CREATE TABLE `order_processing`.`order_item` ( `orderno` INT NOT NULL , `itemno` INT NOT NULL , `qty` INT NOT NULL , PRIMARY KEY (`orderno`));
```

```
ALTER TABLE order_item ADD FOREIGN KEY (itemno) REFERENCES item(itemno);
```

```
CREATE TABLE `order_processing`.`orders` ( `orderno` INT NOT NULL , `odate` DATE NOT NULL , `custno` INT NOT NULL , `ord_amt` INT NOT NULL , PRIMARY KEY (`orderno`)) ENGINE = InnoDB;
```

```
ALTER TABLE orders ADD FOREIGN KEY(custno) REFERENCES customer(cust)
```

```
CREATE TABLE `order_processing`.`shipment` ( `orderno` INT NOT NULL , `warehouseno` INT NOT NULL , `ship_date` DATE NOT NULL , PRIMARY KEY (`orderno`));
```

```
ALTER TABLE shipment ADD FOREIGN KEY (warehouseno) REFERENCES warehouse(warehouseno);
```

- ii. Enter at least five tuples for each relation.

```
INSERT INTO `customer` (`cust`, `cname`, `city`) VALUES ('501', 'rudra', 'bengaluru'), ('502', 'darshana', 'kolar'), ('503', 'rajiv', 'mandya'), ('504', 'kavita', 'mysuru'), ('505', 'shekhar', 'bengaluru');
```

```
SELECT * FROM `customer`
```

☐ Show all | Number of rows: 25

+ Options

					cust	cname	city
<input type="checkbox"/>		Edit		Copy		Delete	501 rudra bengaluru
<input type="checkbox"/>		Edit		Copy		Delete	502 darshana kolar
<input type="checkbox"/>		Edit		Copy		Delete	503 rajiv mandya
<input type="checkbox"/>		Edit		Copy		Delete	504 kavita mysuru
<input type="checkbox"/>		Edit		Copy		Delete	505 shekhar bengaluru

```
INSERT INTO `item` (`itemno`, `unit-price`) VALUES ('1001', '150'), ('1002', '199'), ('1003', '450'), ('1004', '700'), ('1005', '99')
```

```
SELECT * FROM `item`
```

☐ Show all | Number of rows: 25

+ Options















						itemno	unit-price
<input type="checkbox"/>		Edit		Copy		Delete	1001 150
<input type="checkbox"/>		Edit		Copy		Delete	1002 199
<input type="checkbox"/>		Edit		Copy		Delete	1003 450
<input type="checkbox"/>		Edit		Copy		Delete	1004 700
<input type="checkbox"/>		Edit		Copy		Delete	1005 99

```
INSERT INTO `warehouse` (`warehouseno`, `city`) VALUES ('101', 'bengaluru'), ('102', 'kolar'), ('103', 'mysuru'), ('104', 'bengaluru'), ('105', 'mysuru')
```

```
SELECT * FROM `warehouse`
```

☐ Show all | Number of rows: 25

+ Options

		warehouse	city
<input type="checkbox"/>	 Edit  Copy  Delete	101	bengaluru
<input type="checkbox"/>	 Edit  Copy  Delete	102	kolar
<input type="checkbox"/>	 Edit  Copy  Delete	103	mysuru
<input type="checkbox"/>	 Edit  Copy  Delete	104	bengaluru
<input type="checkbox"/>	 Edit  Copy  Delete	105	mysuru

```
INSERT INTO `orders` (`orderno`, `odate`, `custno`, `ord_amt`) VALUES ('1', '2021-05-05', '501', '30'), ('2', '2021-05-09', '504', '100'), ('3', '2021-06-03', '503', '500')
```

```
SELECT * FROM `orders`
```

☐ Show all | Number of rows: 25

+ Options

		orderno	odate	custno	ord_amt
<input type="checkbox"/>	 Edit  Copy  Delete	1	2021-05-05	501	30
<input type="checkbox"/>	 Edit  Copy  Delete	2	2021-05-09	504	100
<input type="checkbox"/>	 Edit  Copy  Delete	3	2021-06-03	503	500

```
INSERT INTO `order_item` (`orderno`, `itemno`, `qty`) VALUES ('1', '1005', '100'), ('2', '1002', '520'), ('3', '1004', '2000')
```

```
SELECT * FROM `order_item`
```

☐ Show all | Number of rows: 25 Filter rows

+ Options

			orderno	itemno	qty
<input type="checkbox"/>	Edit	Copy	Delete	1	1005 100
<input type="checkbox"/>	Edit	Copy	Delete	2	1002 520
<input type="checkbox"/>	Edit	Copy	Delete	3	1004 2000

```
INSERT INTO `shipment` (`orderno`, `warehouseno`, `ship_date`) VALUES ('1', '101', '2021-05-10'), ('2', '103', '2021-05-19'), ('3', '104', '2021-06-05')
```

```
SELECT * FROM `shipment`
```

☐ Show all | Number of rows: 25 Filter rows: Search th

+ Options

			orderno	warehouseno	ship_date
<input type="checkbox"/>	Edit	Copy	Delete	1	101 2021-05-10
<input type="checkbox"/>	Edit	Copy	Delete	2	103 2021-05-19
<input type="checkbox"/>	Edit	Copy	Delete	3	104 2021-06-05

iii. Produce a listing: CUSTNAME, #oforders, AVG_ORDER_AMT, where the middle column is the total numbers of orders by the customer and the last column is the average order amount for that customer.

```
SELECT c.cname, COUNT(o.orderno) AS nooforders ,AVG(o.ord_amt) AS AVG_order_amt FROM customer c ,orders o WHERE c.cust=o.custno GROUP BY c.cname
```

Showing rows 0 - 2 (3 total, Query took 0.0036 seconds.)

SELECT c.cname, COUNT(o.orderno) AS nooforders ,AVG(o.ord_amt) AS AVG_order_amt FROM customer c ,orders o WHERE c.cust=o.custno GROUP BY c.cname

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 Filter rows: Search this table

+ Options

cname	nooforders	AVG_order_amt
kavita	1	100.0000
rajiv	1	500.0000
rudra	1	30.0000

- iii. List the order# for orders that were shipped from all warehouses that the company has in a specific city.

SELECT orderno FROM shipment WHERE warehouseno IN (SELECT warehouseno FROM warehouse WHERE city="bengaluru")

✓ Showing rows 0 - 3 (4 total, Query took 0.0031 seconds.)

```
SELECT orderno FROM shipment WHERE warehouseno IN (SELECT warehouseno FROM warehouse WHERE city="bengaluru")
```

☐ Profiling [Edit inline] [Edit]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

	orderno
<input type="checkbox"/> Edit Copy Delete	1
<input type="checkbox"/> Edit Copy Delete	5
<input type="checkbox"/> Edit Copy Delete	3
<input type="checkbox"/> Edit Copy Delete	4

- iv. Demonstrate how you delete item# 10 from the ITEM table and make that field null in the ORDER_ITEM table.

ALTER TABLE order_item ADD FOREIGN KEY (itemno) REFERENCES item(itemno) ON DELETE SET NULL ;

```
SELECT * FROM `order_item`
```

☐ Show all | Number of rows: 25 | Filter rows

+ Options

	orderno	itemno	qty
<input type="checkbox"/> Edit Copy Delete	1	1005	100
<input type="checkbox"/> Edit Copy Delete	2	1002	520
<input type="checkbox"/> Edit Copy Delete	3	1004	2000

DELETE FROM `item` WHERE `item`.`itemno` = 1005"

	orderno	itemno	qty
<input type="checkbox"/> Edit Copy Delete	1	0	100
<input type="checkbox"/> Edit Copy Delete	2	1002	520
<input type="checkbox"/> Edit Copy Delete	3	1004	2000