## **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)

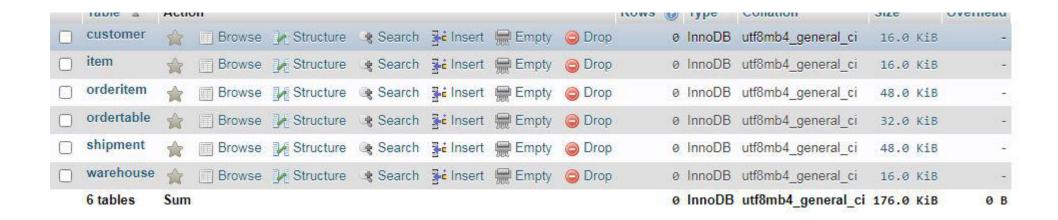
ORDER-ITEM (order #: int, item #: int, qty: int)

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.

```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.2888 seconds.)
create table customer( custNo int PRIMARY KEY, cname varchar(10), city varchar(20) )
Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.1980 seconds.)
create table orderTable( orderNo int primary key, odate date, custNo int, ordAmt int, FOREIGN KEY(custNo) REFERENCES customer(custNo) on
update cascade on delete set NULL )
Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.2680 seconds.)
create table item( itemNo int PRIMARY KEY, unitPrice int )
Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.4220 seconds.)
create table orderItem( orderNo int, itemNo int, qty int, FOREIGN KEY(orderNo) REFERENCES orderTable(orderNo) on update cascade on
delete set NULL, FOREIGN KEY(itemNo) REFERENCES item(itemNo) on update cascade on delete set NULL )
Edit inline [ Edit ] Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.2006 seconds.)
create table warehouse( warehouseNo int PRIMARY KEY, city varchar(20) )
[Edit inline][Edit][Create PHP code]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.2612 seconds.)
create table shipment( orderNo int, warehouseNo int, shipdate date, FOREIGN KEY(orderNo) REFERENCES orderTable(orderNo) on update
cascade on delete set NULL, FOREIGN KEY(warehouseNo) REFERENCES warehouse(warehouseNo) on update cascade on delete set NULL )
Edit inline ] [ Edit ] [ Create PHP code ]
```



ii. Enter at least five tuples for each relation.

```
√ 1 row inserted. (Query took 0.0472 seconds.)

 INSERT INTO `customer` VALUES (1, 'Jake', 'Bangalore')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.1130 seconds.)

 INSERT INTO `customer` VALUES (2, 'Terry', 'Mumbai')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0700 seconds.)

 INSERT INTO `customer` VALUES (3, 'Charles', 'Jaipur')
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0370 seconds.)
 INSERT INTO `customer` VALUES (4, 'Rosa', 'Guwahati')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0380 seconds.)

 INSERT INTO `customer` VALUES (5, 'Amy', 'Bangalore')
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0330 seconds.)
 INSERT INTO `customer` VALUES (6, 'Holt', 'Mumbai')
[Edit inline] [Edit] [Create PHP code]
```

$\leftarrow T \rightarrow$				▼ custNo	cname	city
	<i>⊘</i> Edit	<b>∄</b> ċ Copy	Delete	1	Jake	Bangalore
	<i>⊘</i> Edit	<b>≩≟</b> Copy	Delete	2	Terry	Mumbai
	@ Edit	<b>≟</b> Copy	Delete	3	Charles	Jaipur
	Edit	<b>≩</b> ≟ Copy	Delete	4	Rosa	Guwahati
	Edit	<b>≩</b> ≟ Copy	Delete	5	Amy	Bangalore
	Ø Edit	<b>≩-</b> Copy	Delete	6	Holt	Mumbai

```
1 row inserted. (Query took 0.0678 seconds.)
 INSERT INTO `ordertable` VALUES (1,'2021-06-01',1,1000)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.1014 seconds.)
 INSERT INTO 'ordertable' VALUES (2,'2021-06-02',1,1500)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0562 seconds.)
 INSERT INTO `ordertable` VALUES (3,'2021-06-03',3,1600)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0412 seconds.)
 INSERT INTO 'ordertable' VALUES (4,'2021-06-04',2,1700)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0532 seconds.)
 INSERT INTO 'ordertable' VALUES (5,'2021-06-05',4,1200)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0618 seconds.)
 INSERT INTO `ordertable` VALUES (6,'2021-06-06',5,1100)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0400 seconds.)
 INSERT INTO 'ordertable' VALUES (7,'2021-06-07',2,1890)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.2150 seconds.)
 INSERT INTO `ordertable` VALUES (8,'2021-06-08',4,1999)
Console [ Edit ] [ Create PHP code ]
```

←T→			7	orderNo	odate	custNo	ordAmt
	@ Edit	<b>≟</b> Copy	Delete	1	2021-06-01	1	1000
		<b>≩</b> с Сору	Delete	2	2021-06-02	1	1500
		<b>≩</b> € Copy	Delete	3	2021-06-03	3	1600
	@ Edit	<b>≩-ċ</b> Copy	Delete	4	2021-06-04	2	1700
	Edit	<b>≩</b>	Delete	5	2021-06-05	4	1200
	Ø Edit	<b>∄-ċ</b> Copy	Delete	6	2021-06-06	5	1100
		<b>≩</b> € Copy	Delete	7	2021-06-07	2	1890
	Edit	<b>∄</b> ċ Copy	Delete	8	2021-06-08	4	1999

```
INSERT INTO 'item' VALUES (1,1000)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.1390 seconds.)

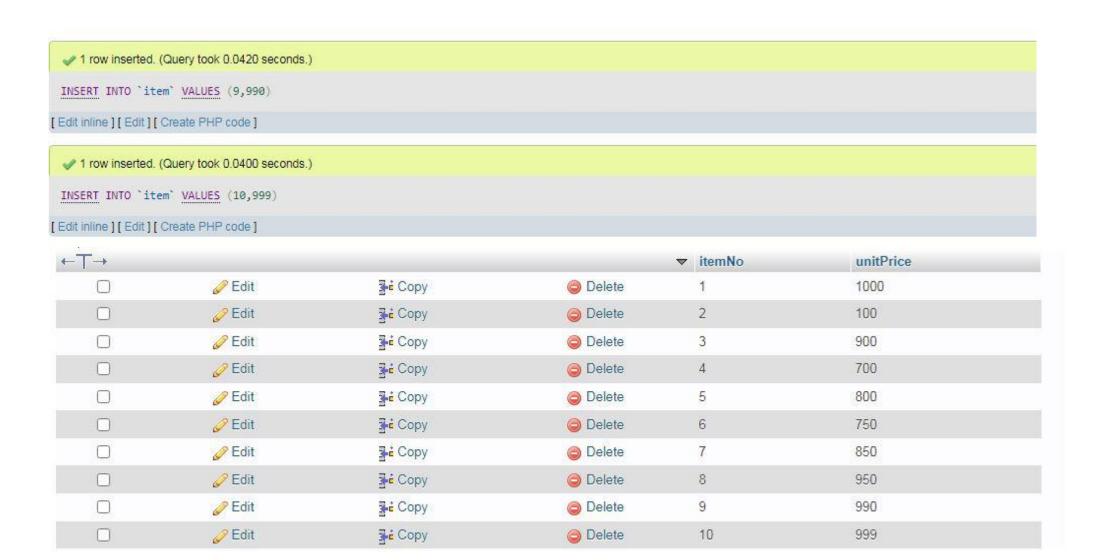
 INSERT INTO `item` VALUES (2,100)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.1210 seconds.)
 INSERT INTO 'item' VALUES (3,900)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0312 seconds.)
 INSERT INTO 'item' VALUES (4,700)
[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ 1 row inserted. (Query took 0.0426 seconds.)

 INSERT INTO 'item' VALUES (5,800)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0540 seconds.)
 INSERT INTO 'item' VALUES (6,750)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0320 seconds.)

 INSERT INTO 'item' VALUES (7,850)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0320 seconds.)
 INSERT INTO 'item' VALUES (8,950)
[ Edit inline ] [ Edit ] [ Create PHP code ]
```



```
INSERT INTO `orderitem` VALUES (1,9,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0864 seconds.)
 INSERT INTO `orderitem` VALUES (2,8,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0366 seconds.)
 INSERT INTO `orderitem` VALUES (3,7,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0156 seconds.)
 INSERT INTO `orderitem` VALUES (4,6,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0844 seconds.)
 INSERT INTO `orderitem` VALUES (5,5,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0156 seconds.)

 INSERT INTO `orderitem` VALUES (6,4,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0446 seconds.)
 INSERT INTO `orderitem` VALUES (7,3,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0260 seconds.)
 INSERT INTO `orderitem` VALUES (8,10,1)
[ Edit inline ] [ Edit ] [ Create PHP code ]
```

orderNo	itemNo	qty
1	9	1
2	8	1
3	7	1
4	6	1
5	5	1
6	4	1
7	3	1
8	10	1
8	1	1
7	2	8

```
√ 1 row inserted. (Query took 0.0230 seconds.)

 INSERT INTO `warehouse` VALUES (1, 'Bengaluru')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.1322 seconds.)

 INSERT INTO `warehouse` VALUES (2, 'Mumbai')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0366 seconds.)

 INSERT INTO `warehouse` VALUES (3, 'Delhi')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0488 seconds.)

 INSERT INTO `warehouse` VALUES (4, 'Chennai')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0156 seconds.)

 INSERT INTO `warehouse` VALUES (5, 'Delhi')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0376 seconds.)
 INSERT INTO `warehouse` VALUES (6, 'Bengaluru')
[ Edit inline ] [ Edit ] [ Create PHP code ]
```

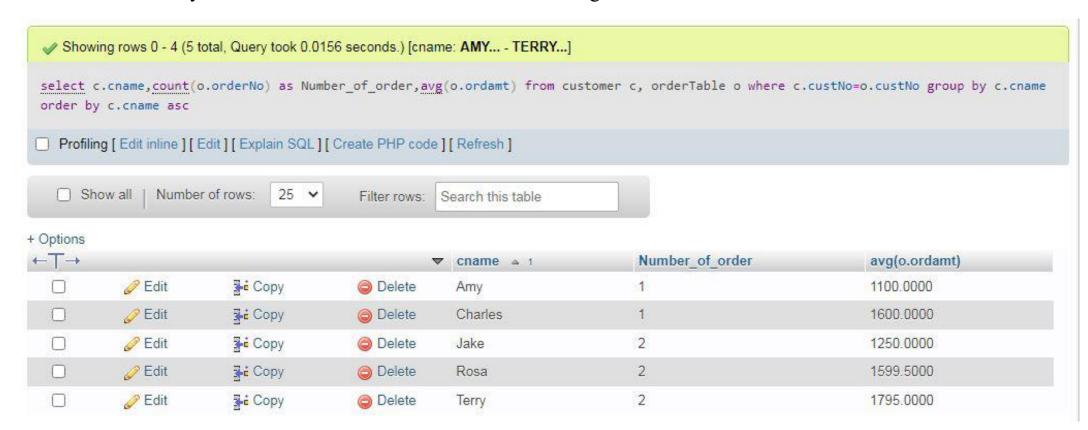
+T→			~	warehouseNo	city
	@ Edit	<b>≩</b>	Delete	1	Bengaluru
	<i>⊘</i> Edit	<b>≩≟</b> Copy	Delete	2	Mumbai
	@ Edit	<b>≩</b> ≟ Copy	Delete	3	Delhi
		<b>≩≟</b> Copy	Delete	4	Chennai
	Edit	<b>≩</b> Copy	Delete	5	Delhi
		<b>≩≟</b> Copy	Delete	6	Bengaluru

```
1 row inserted. (Query took 0.0420 seconds.)
 INSERT INTO `shipment` VALUES (1,5,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.1022 seconds.)
 INSERT INTO `shipment` VALUES (2,2,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0400 seconds.)
 INSERT INTO `shipment` VALUES (3,6,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0250 seconds.)
 INSERT INTO `shipment` VALUES (4,1,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0540 seconds.)
 INSERT INTO `shipment` VALUES (5,6,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0350 seconds.)
 INSERT INTO `shipment` VALUES (6,5,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0410 seconds.)
 INSERT INTO `shipment` VALUES (7,4,'2021-06-08')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0360 seconds.)
 TNCCOT TNTO `shipment` VALUES (8,3,'2021-06-08')
```

## + Options

orderNo	warehouseNo	shipdate
1	5	2020-06-08
2	2	2020-06-08
3	6	2020-06-08
4	1	2020-06-08
5	6	2020-06-08
6	5	2020-06-08
7	4	2020-06-08
8	3	2020-06-08

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.



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



v. Demonstrate how you delete item# 10 from the ITEM table and make that field null in the ORDER\_ITEM table.

# On delete set null used at the end of foreign key definiton while creating order item table hence the item number deleted will automatically be set to null in order item delete from item where itemNo=10

[Edit inline][Edit][Create PHP code]

