```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| collegedatabase    |
| companydatabase    |
| information_schema |
| moviedatabase      |
| mysql              |
| performance_schema |
| sakila             |
| sys                |
| world              |
+--------------------+
9 rows in set (0.03 sec)

mysql> CREATE DATABASE ORDERDATABASE;
Query OK, 1 row affected (0.01 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| collegedatabase    |
| companydatabase    |
| information_schema |
| moviedatabase      |
| mysql              |
| orderdatabase      |
| performance_schema |
| sakila             |
| sys                |
| world              |
+--------------------+
10 rows in set (0.00 sec)

mysql> USE ORDERDATABASE;
Database changed
mysql>
```

```
mysql> CREATE TABLE SALESMAN
    -> (
    -> SALESMAN_ID            INT,
    -> NAME                   VARCHAR(20),
    -> CITY                   VARCHAR(20),
    -> COMMISSION             VARCHAR(20),
    -> PRIMARY KEY (SALESMAN_ID)
    -> );
Query OK, 0 rows affected (0.08 sec)

mysql> DESCRIBE SALESMAN;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| SALESMAN_ID | int         | NO   | PRI | NULL    |       |
| NAME        | varchar(20) | YES  |     | NULL    |       |
| CITY        | varchar(20) | YES  |     | NULL    |       |
| COMMISSION  | varchar(20) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> CREATE TABLE CUSTOMER
    -> (
    -> CUSTOMER_ID            INT,
    -> CUST_NAME              VARCHAR(20),
    -> CITY                   VARCHAR(20),
    -> GRADE                  INT,
    -> SALESMAN_ID            INT,
    -> PRIMARY KEY (CUSTOMER_ID),
    -> FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN (SALESMAN_ID) ON DELETE SET NULL
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESCRIBE CUSTOMER;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| CUSTOMER_ID | int         | NO   | PRI | NULL    |       |
| CUST_NAME   | varchar(20) | YES  |     | NULL    |       |
| CITY        | varchar(20) | YES  |     | NULL    |       |
| GRADE       | int         | YES  |     | NULL    |       |
| SALESMAN_ID | int         | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

```
mysql> CREATE TABLE ORDERS
    -> (
    -> ORD_ID                   INT,
    -> PURCHASE_AMT             DECIMAL(10,2),
    -> ORD_DATE                 DATE,
    -> CUSTOMER_ID              INT,
    -> SALESMAN_ID              INT,
    -> PRIMARY KEY (ORD_ID),
    -> FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN (SALESMAN_ID) ON DELETE CASCADE,
    -> FOREIGN KEY (CUSTOMER_ID) REFERENCES CUSTOMER (CUSTOMER_ID) ON DELETE CASCADE
    -> );
Query OK, 0 rows affected (0.09 sec)

mysql> DESCRIBE ORDERS;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| ORD_ID       | int           | NO   | PRI | NULL    |       |
| PURCHASE_AMT | decimal(10,2) | YES  |     | NULL    |       |
| ORD_DATE     | date          | YES  |     | NULL    |       |
| CUSTOMER_ID  | int           | YES  | MUL | NULL    |       |
| SALESMAN_ID  | int           | YES  | MUL | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> SHOW TABLES;
+-----------------------+
| Tables_in_orderdatabase |
+-----------------------+
| customer              |
| orders                |
| salesman              |
+-----------------------+
3 rows in set (0.01 sec)

mysql>
```

```
mysql> INSERT INTO SALESMAN VALUES
    -> ('101','RICHARD','LOS ANGELES','18%');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SALESMAN VALUES
    -> ('103','GEORGE','NEWYORK','32%');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SALESMAN VALUES
    -> ('110','CHARLES','BANGALORE','54%');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SALESMAN VALUES
    -> ('122','ROWLING','PHILADELPHIA','46%');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SALESMAN VALUES
    -> ('126','KURT','CHICAGO','52%');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SALESMAN VALUES
    -> ('132','EDWIN','PHOENIX','41%');
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM SALESMAN;
+-------------+---------+--------------+------------+
| SALESMAN_ID | NAME    | CITY         | COMMISSION |
+-------------+---------+--------------+------------+
|         101 | RICHARD | LOS ANGELES  | 18%        |
|         103 | GEORGE  | NEWYORK      | 32%        |
|         110 | CHARLES | BANGALORE    | 54%        |
|         122 | ROWLING | PHILADELPHIA | 46%        |
|         126 | KURT    | CHICAGO      | 52%        |
|         132 | EDWIN   | PHOENIX      | 41%        |
+-------------+---------+--------------+------------+
6 rows in set (0.00 sec)

mysql>
```

```
mysql> INSERT INTO CUSTOMER VALUES
    -> ('501','SMITH','LOS ANGELES','10','103');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO CUSTOMER VALUES
    -> ('510','BROWN','ATLANTA','14','122');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO CUSTOMER VALUES
    -> ('522','LEWIS','BANGALORE','10','132');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO CUSTOMER VALUES
    -> ('534','PHILIPS','BOSTON','17','103');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO CUSTOMER VALUES
    -> ('543','EDWARD','BANGALORE','14','110');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO CUSTOMER VALUES
    -> ('550','PARKER','ATLANTA','19','126');
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM CUSTOMER;
+-------------+-----------+-------------+-------+-------------+
| CUSTOMER_ID | CUST_NAME | CITY        | GRADE | SALESMAN_ID |
+-------------+-----------+-------------+-------+-------------+
|         501 | SMITH     | LOS ANGELES |    10 |         103 |
|         510 | BROWN     | ATLANTA     |    14 |         122 |
|         522 | LEWIS     | BANGALORE   |    10 |         132 |
|         534 | PHILIPS   | BOSTON      |    17 |         103 |
|         543 | EDWARD    | BANGALORE   |    14 |         110 |
|         550 | PARKER    | ATLANTA     |    19 |         126 |
+-------------+-----------+-------------+-------+-------------+
6 rows in set (0.00 sec)

mysql>
```

```
mysql> INSERT INTO ORDERS VALUES
    -> ('1','1000', '2017-05-04','501','103');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ORDERS VALUES
    -> ('2','4000','2017-01-20','522','132');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ORDERS VALUES
    -> ('3','2500', '2017-02-24','550','126');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ORDERS VALUES
    -> ('5','6000','2017-04-13','522','103');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ORDERS VALUES
    -> ('6','7000', '2017-03-09','550','126');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ORDERS VALUES
    -> ('7','3400','2017-01-20','501','122');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM ORDERS;
+--------+--------------+------------+-------------+-------------+
| ORD_ID | PURCHASE_AMT | ORD_DATE   | CUSTOMER_ID | SALESMAN_ID |
+--------+--------------+------------+-------------+-------------+
|      1 |      1000.00 | 2017-05-04 |         501 |         103 |
|      2 |      4000.00 | 2017-01-20 |         522 |         132 |
|      3 |      2500.00 | 2017-02-24 |         550 |         126 |
|      5 |      6000.00 | 2017-04-13 |         522 |         103 |
|      6 |      7000.00 | 2017-03-09 |         550 |         126 |
|      7 |      3400.00 | 2017-01-20 |         501 |         122 |
+--------+--------------+------------+-------------+-------------+
6 rows in set (0.00 sec)

mysql>
```

```
mysql> DESCRIBE SALESMAN;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| SALESMAN_ID | int        | NO   | PRI | NULL    |       |
| NAME       | varchar(20) | YES  |     | NULL    |       |
| CITY       | varchar(20) | YES  |     | NULL    |       |
| COMMISSION | varchar(20) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> SELECT * FROM SALESMAN;
+------------+---------+--------------+------------+
| SALESMAN_ID | NAME   | CITY         | COMMISSION |
+------------+---------+--------------+------------+
|        101 | RICHARD | LOS ANGELES  | 18%        |
|        103 | GEORGE  | NEWYORK      | 32%        |
|        110 | CHARLES | BANGALORE    | 54%        |
|        122 | ROWLING | PHILADELPHIA | 46%        |
|        126 | KURT    | CHICAGO      | 52%        |
|        132 | EDWIN   | PHOENIX      | 41%        |
+------------+---------+--------------+------------+
6 rows in set (0.00 sec)

mysql> DESCRIBE CUSTOMER;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| CUSTOMER_ID | int         | NO   | PRI | NULL    |       |
| CUST_NAME   | varchar(20) | YES  |     | NULL    |       |
| CITY        | varchar(20) | YES  |     | NULL    |       |
| GRADE       | int         | YES  |     | NULL    |       |
| SALESMAN_ID | int         | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> SELECT * FROM CUSTOMER;
+-------------+-----------+-------------+-------+-------------+
| CUSTOMER_ID | CUST_NAME | CITY        | GRADE | SALESMAN_ID |
+-------------+-----------+-------------+-------+-------------+
|         501 | SMITH     | LOS ANGELES |    10 |         103 |
|         510 | BROWN     | ATLANTA     |    14 |         122 |
|         522 | LEWIS     | BANGALORE   |    10 |         132 |
|         534 | PHILIPS   | BOSTON      |    17 |         103 |
|         543 | EDWARD    | BANGALORE   |    14 |         110 |
|         550 | PARKER    | ATLANTA     |    19 |         126 |
+-------------+-----------+-------------+-------+-------------+
6 rows in set (0.00 sec)

mysql>
```

```
mysql> DESCRIBE ORDERS;
+-------------+---------------+------+-----+---------+-------+
| Field       | Type          | Null | Key | Default | Extra |
+-------------+---------------+------+-----+---------+-------+
| ORD_ID      | int           | NO   | PRI | NULL    |       |
| PURCHASE_AMT | decimal(10,2) | YES  |     | NULL    |       |
| ORD_DATE    | date          | YES  |     | NULL    |       |
| CUSTOMER_ID | int           | YES  | MUL | NULL    |       |
| SALESMAN_ID | int           | YES  | MUL | NULL    |       |
+-------------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> SELECT * FROM ORDERS;
+--------+--------------+------------+-------------+-------------+
| ORD_ID | PURCHASE_AMT | ORD_DATE   | CUSTOMER_ID | SALESMAN_ID |
+--------+--------------+------------+-------------+-------------+
|      1 |      1000.00 | 2017-05-04 |         501 |         103 |
|      2 |      4000.00 | 2017-01-20 |         522 |         132 |
|      3 |      2500.00 | 2017-02-24 |         550 |         126 |
|      5 |      6000.00 | 2017-04-13 |         522 |         103 |
|      6 |      7000.00 | 2017-03-09 |         550 |         126 |
|      7 |      3400.00 | 2017-01-20 |         501 |         122 |
+--------+--------------+------------+-------------+-------------+
6 rows in set (0.00 sec)

mysql>
```

```
mysql> SELECT * FROM CUSTOMER;
+-------------+-----------+-------------+-------+-------------+
| CUSTOMER_ID | CUST_NAME | CITY        | GRADE | SALESMAN_ID |
+-------------+-----------+-------------+-------+-------------+
|         501 | SMITH     | LOS ANGELES |    10 |         103 |
|         510 | BROWN     | ATLANTA     |    14 |         122 |
|         522 | LEWIS     | BANGALORE   |    10 |         132 |
|         534 | PHILIPS   | BOSTON      |    17 |         103 |
|         543 | EDWARD    | BANGALORE   |    14 |         110 |
|         550 | PARKER    | ATLANTA     |    19 |         126 |
+-------------+-----------+-------------+-------+-------------+
6 rows in set (0.00 sec)

mysql> SELECT GRADE, COUNT (CUSTOMER_ID)
    -> FROM CUSTOMER
    -> GROUP BY GRADE
    -> HAVING GRADE >
    -> (SELECT AVG (GRADE)
    -> FROM CUSTOMER
    -> WHERE CITY = 'BANGALORE');
+-------+--------------------+
| GRADE | COUNT (CUSTOMER_ID) |
+-------+--------------------+
|    14 |                  2 |
|    17 |                  1 |
|    19 |                  1 |
+-------+--------------------+
3 rows in set (0.00 sec)

mysql>
```

```
mysql> SELECT * FROM SALESMAN;
+-------------+----------+--------------+------------+
| SALESMAN_ID | NAME     | CITY         | COMMISSION |
+-------------+----------+--------------+------------+
|         101 | RICHARD  | LOS ANGELES  | 18%        |
|         103 | GEORGE   | NEWYORK      | 32%        |
|         110 | CHARLES  | BANGALORE    | 54%        |
|         122 | ROWLING  | PHILADELPHIA | 46%        |
|         126 | KURT     | CHICAGO      | 52%        |
|         132 | EDWIN    | PHOENIX      | 41%        |
+-------------+----------+--------------+------------+
6 rows in set (0.00 sec)

mysql> SELECT S.SALESMAN_ID, NAME
    -> FROM CUSTOMER AS C, SALESMAN AS S
    -> WHERE S.SALESMAN_ID = C.SALESMAN_ID
    -> GROUP BY C.SALESMAN_ID
    -> HAVING COUNT (*) > 1;
+-------------+--------+
| SALESMAN_ID | NAME   |
+-------------+--------+
|         103 | GEORGE |
+-------------+--------+
1 row in set (0.00 sec)

mysql>
```

```
mysql> SELECT * FROM SALESMAN;
+-------------+---------+-------------+------------+
| SALESMAN_ID | NAME    | CITY        | COMMISSION |
+-------------+---------+-------------+------------+
|         101 | RICHARD | LOS ANGELES | 18%        |
|         103 | GEORGE  | NEWYORK     | 32%        |
|         110 | CHARLES | BANGALORE   | 54%        |
|         122 | ROWLING | PHILADELPHIA| 46%        |
|         126 | KURT    | CHICAGO     | 52%        |
|         132 | EDWIN   | PHOENIX     | 41%        |
+-------------+---------+-------------+------------+
6 rows in set (0.00 sec)

mysql> (SELECT S.SALESMAN_ID, NAME, C.CUST_NAME, COMMISSION
    -> FROM SALESMAN AS S, CUSTOMER AS C
    -> WHERE S.CITY = C.CITY)
    -> UNION
    -> (SELECT SALESMAN_ID, NAME, 'NO MATCH',COMMISSION
    -> FROM SALESMAN
    -> WHERE NOT CITY = ANY
    -> (SELECT CITY
    -> FROM CUSTOMER)
    -> ORDER BY 2 DESC);
+-------------+---------+-----------+------------+
| SALESMAN_ID | NAME    | CUST_NAME | COMMISSION |
+-------------+---------+-----------+------------+
|         101 | RICHARD | SMITH     | 18%        |
|         110 | CHARLES | LEWIS     | 54%        |
|         110 | CHARLES | EDWARD    | 54%        |
|         103 | GEORGE  | NO MATCH  | 32%        |
|         122 | ROWLING | NO MATCH  | 46%        |
|         126 | KURT    | NO MATCH  | 52%        |
|         132 | EDWIN   | NO MATCH  | 41%        |
+-------------+---------+-----------+------------+
7 rows in set (0.00 sec)

mysql>
```

```
mysql> SELECT * FROM ORDERS;
+--------+--------------+------------+-------------+-------------+
| ORD_ID | PURCHASE_AMT | ORD_DATE   | CUSTOMER_ID | SALESMAN_ID |
+--------+--------------+------------+-------------+-------------+
|      1 |      1000.00 | 2017-05-04 |         501 |         103 |
|      2 |      4000.00 | 2017-01-20 |         522 |         132 |
|      3 |      2500.00 | 2017-02-24 |         550 |         126 |
|      5 |      6000.00 | 2017-04-13 |         522 |         103 |
|      6 |      7000.00 | 2017-03-09 |         550 |         126 |
|      7 |      3400.00 | 2017-01-20 |         501 |         122 |
+--------+--------------+------------+-------------+-------------+
6 rows in set (0.00 sec)

mysql> CREATE VIEW VW_ELITE_SALESMAN AS
    -> SELECT A.SALESMAN_ID, A.NAME, B.ORD_DATE
    -> FROM SALESMAN AS A, ORDERS AS B
    -> WHERE A.SALESMAN_ID = B.SALESMAN_ID AND B.PURCHASE_AMT = (SELECT MAX(PURCHASE_AMT)
    -> FROM ORDERS AS C
    -> WHERE C.ORD_DATE = B.ORD_DATE);
Query OK, 0 rows affected (0.01 sec)

mysql> SELECT * FROM VW_ELITE_SALESMAN;
+-------------+--------+------------+
| SALESMAN_ID | NAME   | ORD_DATE   |
+-------------+--------+------------+
|         103 | GEORGE | 2017-05-04 |
|         132 | EDWIN  | 2017-01-20 |
|         126 | KURT   | 2017-02-24 |
|         103 | GEORGE | 2017-04-13 |
|         126 | KURT   | 2017-03-09 |
+-------------+--------+------------+
5 rows in set (0.00 sec)

mysql>
```

```
mysql> SELECT * FROM SALESMAN;
+-------------+---------+--------------+------------+
| SALESMAN_ID | NAME    | CITY         | COMMISSION |
+-------------+---------+--------------+------------+
|         101 | RICHARD | LOS ANGELES  | 18%        |
|         103 | GEORGE  | NEWYORK      | 32%        |
|         110 | CHARLES | BANGALORE    | 54%        |
|         122 | ROWLING | PHILADELPHIA | 46%        |
|         126 | KURT    | CHICAGO      | 52%        |
|         132 | EDWIN   | PHOENIX      | 41%        |
+-------------+---------+--------------+------------+
6 rows in set (0.00 sec)

mysql> SELECT * FROM ORDERS;
+--------+-------------+------------+-------------+-------------+
| ORD_ID | PURCHASE_AMT | ORD_DATE   | CUSTOMER_ID | SALESMAN_ID |
+--------+-------------+------------+-------------+-------------+
|      1 |     1000.00 | 2017-05-04 |         501 |         103 |
|      2 |     4000.00 | 2017-01-20 |         522 |         132 |
|      3 |     2500.00 | 2017-02-24 |         550 |         126 |
|      5 |     6000.00 | 2017-04-13 |         522 |         103 |
|      6 |     7000.00 | 2017-03-09 |         550 |         126 |
|      7 |     3400.00 | 2017-01-20 |         501 |         122 |
+--------+-------------+------------+-------------+-------------+
6 rows in set (0.00 sec)

mysql> # INSTEAD OF DELETING SALESMAN HAVING ID = '1000', I AM DELETING THE SALESMAN HAVING THE ID = '110';
mysql> DELETE FROM SALESMAN WHERE SALESMAN_ID = 110;
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM SALESMAN;
+-------------+---------+--------------+------------+
| SALESMAN_ID | NAME    | CITY         | COMMISSION |
+-------------+---------+--------------+------------+
|         101 | RICHARD | LOS ANGELES  | 18%        |
|         103 | GEORGE  | NEWYORK      | 32%        |
|         122 | ROWLING | PHILADELPHIA | 46%        |
|         126 | KURT    | CHICAGO      | 52%        |
|         132 | EDWIN   | PHOENIX      | 41%        |
+-------------+---------+--------------+------------+
5 rows in set (0.00 sec)
```
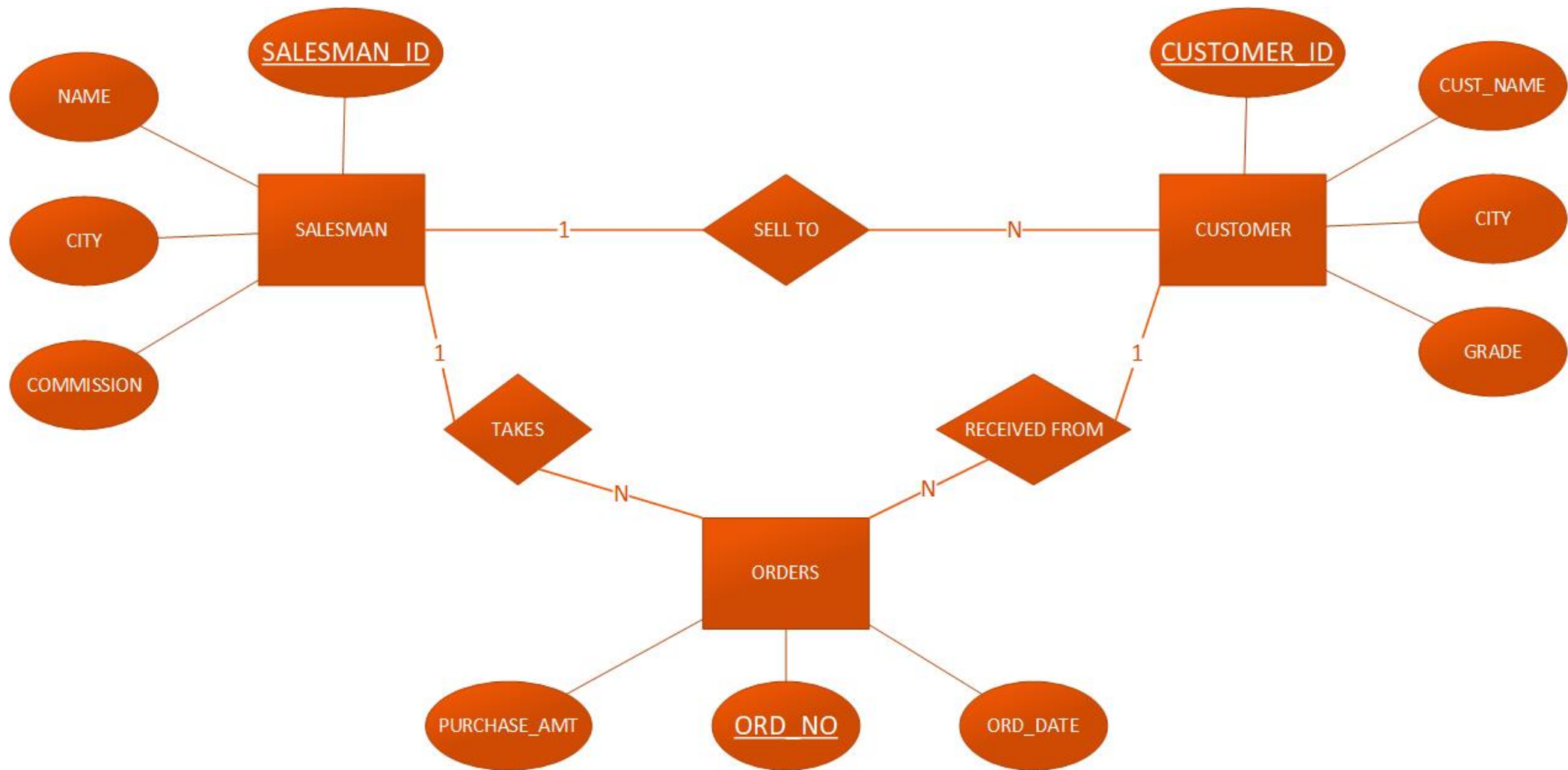
SALESMAN

SALESMAN_ID	NAME	CITY	COMMISSIONE

CUSTOMER

CUSTOMER_ID	CUST_NAME	CITY	GRADE	SALESMAN_ID

ORDERS

ORD_NO	PURCHASE_AMT	ORD_DATE	CUSTOMER_ID	SALESMAN_ID