MIS 3306 Database Management Systems

Module 8-2 Exercise

Required for Grading (Type Your Name Below):

I am Riyan Rattan (type your full name) and I complete this assignment following the UHD academic integrity policy.

Read Before Starting this Assignment:

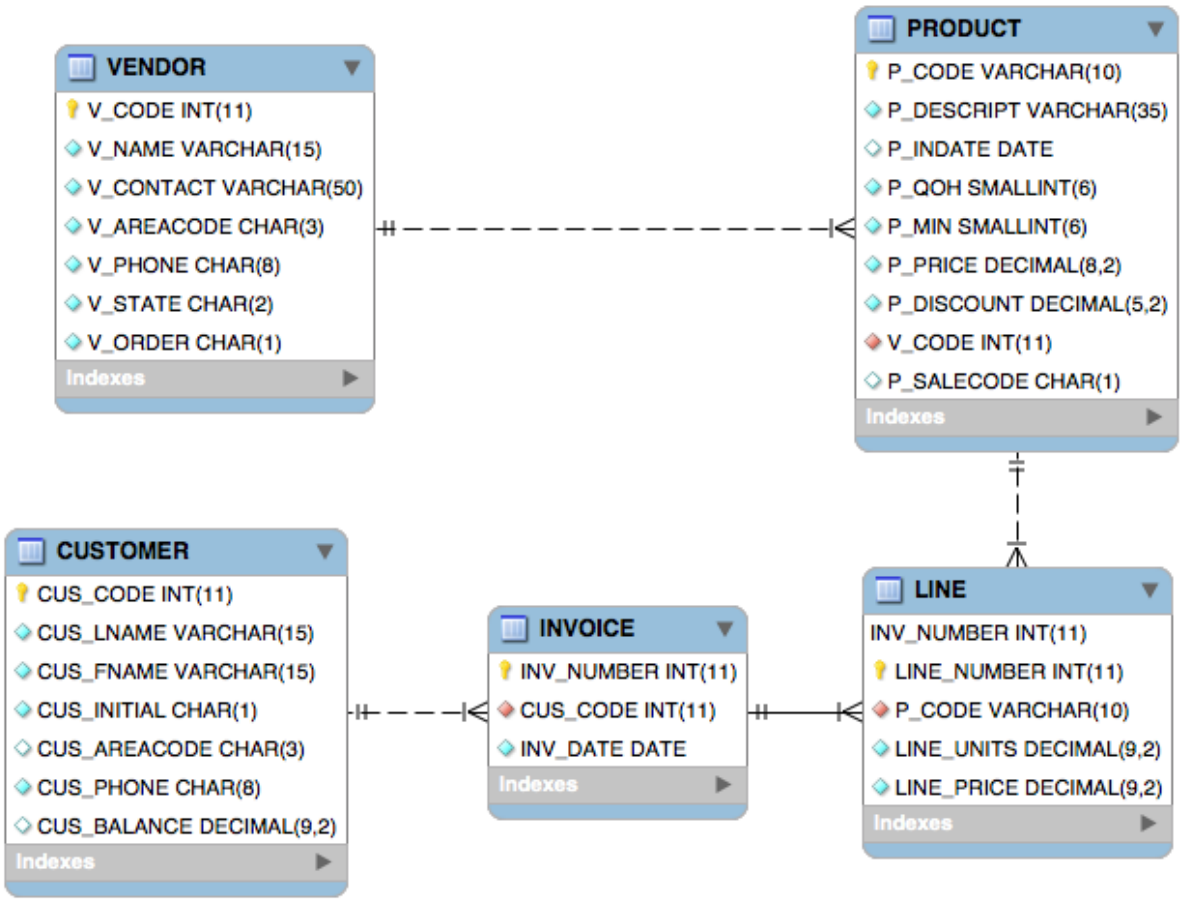
- You must complete Exercise 8-1 to do this exercise.
- Keep in mind that the database server will NOT keep a copy of your SQL codes. The database server simply executes the commands that you send from your client (Workbench). Therefore, in Workbench, please **save your SQL codes as SQL script files (*.sql)**. The *.sql files will become your template for later exercises or a backup.
    - Common practice is to place all create-table commands in one *.sql file and all insert-data commands in another *.sql file.
- Your answer is required when you see the red answer box like the box below.

Answer here:

<<This is an example. Answer whenever you see this.>>

You are asked to rebuild the SalesCo database. The ERD of SalesCo is shown below. The ERD incorporates the column names and the data types.

Symbol	Meaning
	Primary key
	Foreign key
	Column (Not null)
	Column (Could be null)
CUS_CODE INT(11)	Attribute (CUS_CODE) and its data type (INT(11))



Note: The primary key for the LINE table is (INV_NUMBER, LINE_NUMBER), where INV_NUMBER is part of the PK and is also an FK. (this database has 5 tables)

PART I: Make the Data Dictionary (A.K.A. Metadata Table).

1. Refer to the ERD and complete the data dictionary below. **Fill in the blanks** for the INVOICE table. (4 points) – before create, need to specify each, like the PK, the ID,)

TABLE	COLUMN	TYPE	REQUIRED	PK or FK	FK REFERENCED TABLE
PRODUCT	P_CODE	VARCHAR(10)	Y	PK	
	P_DESCRIPT	VARCHAR(35)	Y		
	P_INDATE	DATETIME	Y		
	P_QOH	SMALLINT(6)	Y		
	P_MIN	SMALLINT(6)	Y		
	P_PRICE	DECIMAL(8,2)	Y		
	P_DICSOUNT	DECIMAL(5,2)	Y		
	V_CODE	INT(11)		FK	VENDOR(V_CODE)
VENDOR	V_CODE	INT(11)	Y	PK	
	V_NAME	VARCHAR(30)	Y		
	V_CONTACT	VARCHAR(50)	Y		
	V_AREACODE	CHAR(3)	Y		
	V_PHONE	CHAR(8)	Y		
	V_STATE	CHAR(2)	Y		
	V_ORDER	CHAR(1)	Y		
INVOICE	INV_NUMBER	INT(11)	Y	P	
	CUS_CODE	INT(11)	Y	FK	CUSTOMER(CUS_CODE)
	INV_DATE	DATE	Y		

Note: PK will always be required but FK may be not.
Above is data dictionary or metadata (explains the attributes, and will generally match what you have in ER diagram)
Required = what's within the tables
FK Reference: what is the original attribute

2. In the INVOICE table, what is the foreign key? Also, which table and column does the foreign key refer to? (2 points)

Answer here:
CUS_CODE
CUSTOMER Table

3. Refer to the Table 8.1 in the textbook and MySQL data types (https://www.w3schools.com/sql/sql_datatypes.asp). Explain the difference between CHAR and VARCHAR. (2 points)

Answer here:

Data type	Description
CHAR(size)	A FIXED length string (can contain letters, numbers, and special characters). The *size* parameter specifies the column length in characters - can be from 0 to 255. Default is 1
VARCHAR(size)	A VARIABLE length string (can contain letters, numbers, and special characters). The *size* parameter specifies the maximum column length in characters - can be from 0 to 65535

4. Refer to MySQL data types (https://www.w3schools.com/sql/sql_datatypes.asp). For the DECIMAL(8,2) datatype, what does the "8" mean and what does the "2" mean? (2 points)

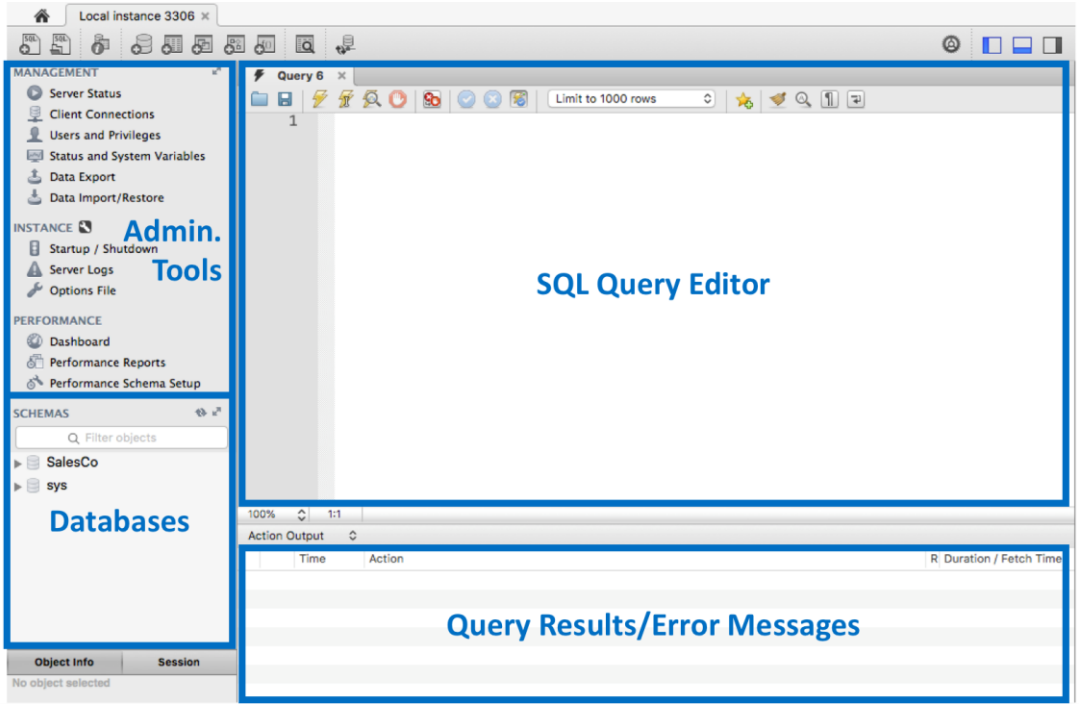
Answer here:

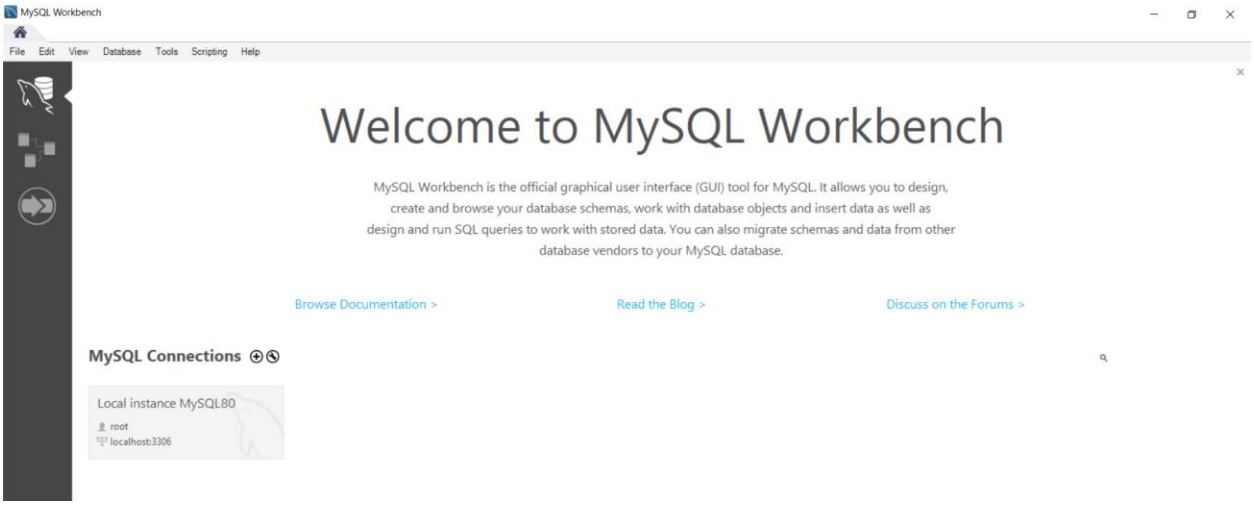
8: total numbers of digits (like 8 boxes with each letter X-X-X-X-X-X-X-X)
2: the digit(s) after the decimal point (0.XX)

DECIMAL(*size*, *d*)	An exact fixed-point number. The total number of digits is specified in *size*. The number of digits after the decimal point is specified in the *d* parameter. The maximum number for *size* is 65. The maximum number for *d* is 30. The default value for *size* is 10. The default value for *d* is 0.
DEC(*size*, *d*)	Equal to DECIMAL(size,d)

PART II: Make and Use the Database.

5. Open MySQL Workbench and click the local instance. You will see the Workbench environment blow.





(Note: you have to click on Local Instance else if you just open up in your documents, will say NOT CONNECTED. So you have to start the MYSQL and manually click Local Instance and manually open your SQL Script to make it running and connected)

6. Create a database and use the database.

a. Click File → New Query Tab, or click  to open a new query.

b. type the following code in the SQL query editor. Replace the database name with your first name and last name. This is required for grading.

```
CREATE DATABASE DB_ShuaifuLin;
```

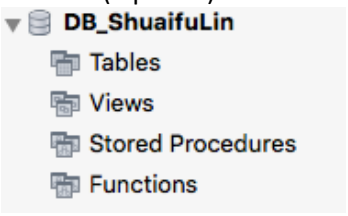
c. Highlight the codes and click  to execute the selected portion.

d. From the SCHEMAS list, click  to refresh. You should see the schema "DB_YourFNameLName". MySQL uses the term schema to refer to a user's view of a database.

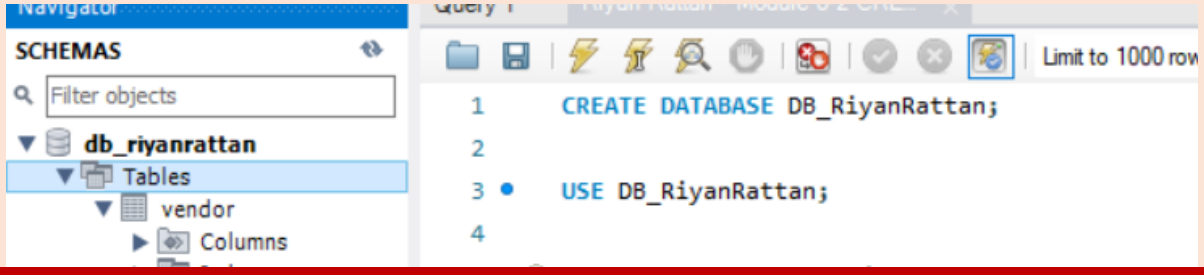
e. To use the database, type the following code in the SQL query editor after the creating database syntax. Highlight the codes and click  to execute the selected statement.

```
1
2 •  CREATE DATABASE DB_ShuaifuLin;
3
4 •  USE DB_ShuaifuLin;
```

f. After refreshing the schemas, you should see your database (schema) in **bold**, which means it is in use. All the later SQL statements will be sent to and executed here. Use the **Snipping** or **Grab** app to capture your database like the image below (you may find a separate document for capturing instructions). Paste it as your answer. (2 points)



Answer here:
The image should clearly show your database name, which should be DB_YourFNameLName.



7. Save the script.
   a. Click File → Save Script
   b. Save the script file as "DB_YourFirstNameLastName_CREATE_TABLE.sql"

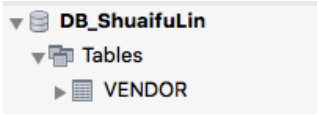
PART III: Create Tables.

8. **To <u>create the VENDOR table</u>**, type the following code in the SQL query editor. You must create the VENDOR table before the PRODUCT table because the PRODUCT table contains a foreign key (V_CODE) that refers to the V_CODE in VENDOR.

```
6  CREATE TABLE VENDOR (
7      V_CODE       int          NOT NULL,
8      V_NAME       varchar(30)  NOT NULL,
9      V_CONTACT    varchar(50)  NOT NULL,
10     V_AREACODE   char(3)  NOT NULL,
11     V_PHONE      char(8)  NOT NULL,
12     V_STATE      char(2)  NOT NULL,
13     V_ORDER      char(1)  NOT NULL,
14     CONSTRAINT   VENDOR_PK    PRIMARY KEY (V_CODE)
15 );
16
```

   - **For better readability**: The code is not case sensitive. However, please follow the naming convention for table names and column names. Use TAB, Space, or Enter/Return on keyboard to align the statement.
   - **To create a table**, use the syntax below. Define the columns and constraints within the parentheses.
     - CREATE TABLE tablename ();
   - **To <u>end a a SQL statement</u>**, <u>use semicolon (;).</u> Therefore, these whole thing from line 6-15 is one statement for creating the VENDOR table.
   - **To define a column**, the format is below. Use space or tab to separate.
     - ColumnName DataType Constraint
   - **To separate a column/constraint**, use a comma (,). For the last column or constraint in the table, do **not** put a comma at the end of the last column/constraint.
   - **To define a primary key**, the format is below.
     - CONSTRAINT ConstraintName PRIMARY KEY (ColumnName)
       - Normally you define the constraint after defining the columns.
       - Choose the proper constraint name that make sense (such as VENDOR_PK, indicating it as the PK in the VENDOR table).
       - The constraint name should be unique in the database.
       - The column name you specified in this constraint must exist in the same table.
   - This is the syntax for MySQL. There exist minor differences between DBMSs.

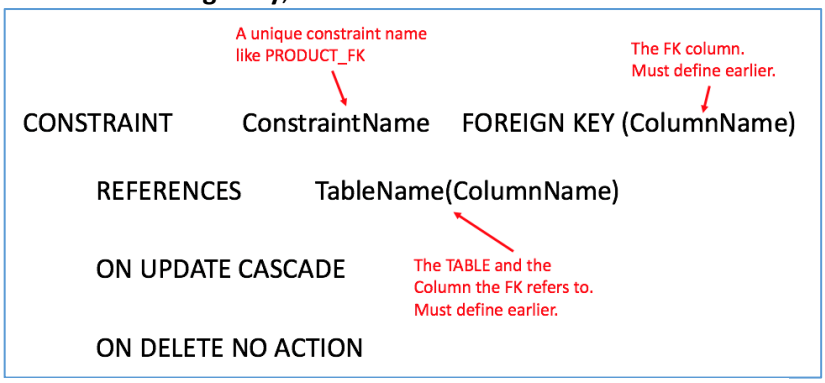
9. Highlight only the codes for creating the VENDOR table and click  to execute the selected statement. From the SCHEMAS list, click  to refresh. You should see the VENDOR table below your schema.

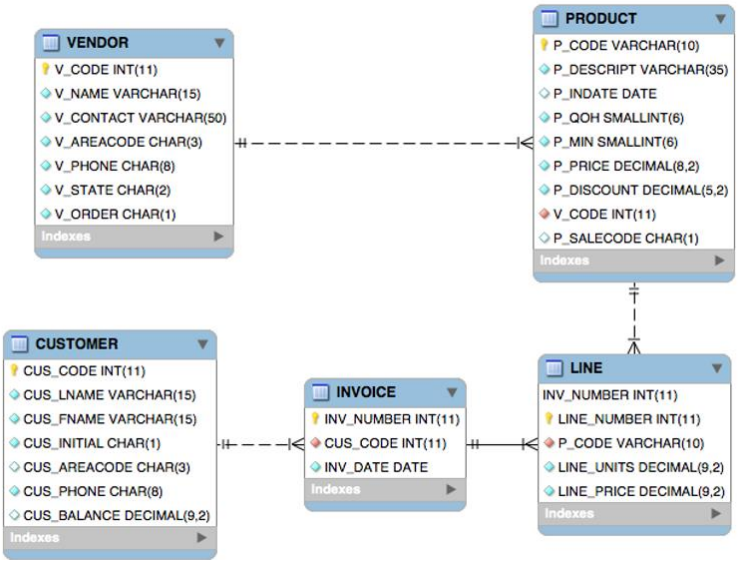


10. **To create the PRODUCT table**, type the following code after the VENDOR table statement. Highlight only the codes for creating the PRODUCT table and click  to execute the selected statement. From the SCHEMAS list, click  to refresh. You should see the PRODUCT table below your schema.

```
17 CREATE TABLE PRODUCT (
18     P_CODE       varchar(10) NOT NULL,
19     P_DESCRIPT   varchar(35) NOT NULL,
20     P_INDATE     datetime    NOT NULL,
21     P_QOH        smallint    NOT NULL,
22     P_MIN        smallint    NOT NULL,
23     P_PRICE      decimal(8,2)    NOT NULL,
24     P_DISCOUNT   decimal(5,2)    NOT NULL,
25     V_CODE       int     NOT NULL,
26     CONSTRAINT   PRODUCT_PK  PRIMARY KEY (P_CODE),
27     CONSTRAINT   PRODUCT_FK  FOREIGN KEY (V_CODE)    REFERENCES  VENDOR(V_CODE)
28         ON UPDATE CASCADE
29         ON DELETE NO ACTION
30 );
31
```

- **To define a foreign key**, the format is below.





11. In the SQL code for the foreign key constraint, it writes:
"CONSTRAINT PRODUCT_FK FOREIGN KEY (V_CODE) REFERENCES VENDOR(V_CODE) ON UPDATE CASCADE ON DELETE NO ACTION".
This means: (6 points)

    The blue means reserved word or function in SQL language

Answer here:

- The constraint name is: ___**PRODUCT_FK**_____
- The foreign key is the **_V_CODE**_____ column.
- The original primary key (that the foreign key refers to) is the ___**VENDOR**_____'s __**V_CODE**_____column.
- "ON UPDATE CASCADE" means: If a PRODUCT(V_CODE) value exists and you command to change the same value in the VENDOR's V_CODE, __**value in PRODUCT(VCODE will be changed as well**_____ (what will happen?).
- "ON DELETE NO ACTION" means: If a PRODUCT(V_CODE) value exists and you command to delete the same value in the VENDOR's V_CODE, __**no value will be deleted**_____ (what will happen?).

12. Now, you are going to create the **CUSTOMER, INVOICE, and LINE table**. Among the three tables, the first table to be created should be CUSTOMER, the second table to be created should be INVOICE, and the third table to be created should be LINE.
Explain why the table should be created <u>in this sequence</u>. (2 points)

Answer here:
Because PK should exist or created before FK

Also, follow the || (parent) lines to child (<). The parent comes first. So:

Customer → Invoice → Line

Vendor → Product → Line

13. **To create the CUSTOMER table**, type the following code after the PRODUCT table statement. Highlight only the codes for creating the CUSTOMER table and click to execute the selected statement. From the SCHEMAS list, click to refresh. You should see the CUSTOMER table below your schema.

```
32  CREATE TABLE CUSTOMER (
33      CUS_CODE        int         NOT NULL,
34      CUS_LNAME       varchar(15) NOT NULL,
35      CUS_FNAME       varchar(15) NOT NULL,
36      CUS_INITIAL     char(1)     NOT NULL,
37      CUS_AREACODE    char(3)     DEFAULT '615'   CHECK(CUS_AREACODE IN ('615', '713', '931')),
38      CUS_PHONE       char(8)     NOT NULL,
39      CUS_BALANCE     decimal(9,2)    DEFAULT 0.00,
40      CONSTRAINT  CUSTOMER_PK PRIMARY KEY (??????),
41      CONSTRAINT  CUS_UNI UNIQUE  (CUS_LNAME, CUS_FNAME, CUS_INITIAL)
42  );
43
```

- Replace the ?????? with a proper column name. (CUS_CODE)
- **Value constraint**: the DEFAULT and CHECK set the value constraints.
- **To define a candidate key**, use the UNIQUE constraint, as shown in line 41.

The default value for the CUS_AREACODE is: (2 points)

Answer here:

615,when create new cust, system will give default code 615

CHECK means if put other than 615, 713, 931, database tells will not able to input any other number to maintain data quality

14. **To create the INVOICE table**, type the following code after the CUSTOMER table statement. Highlight only the codes for creating the INVOICE table and click to execute the selected statement. From the SCHEMAS list, click to refresh. You should see the INVOICE table below your schema.

```
44  CREATE TABLE INVOICE (
45      INV_NUMBER      int             NOT NULL,
46      CUS_CODE        int             NOT NULL,
47      INV_DATE        date            NOT NULL    CHECK(INV_DATE>'2018-01-01'),
48      INV_TOTAL       decimal(10,2)   NOT NULL,
49      CONSTRAINT  INVOICE_PK  PRIMARY KEY (INV_NUMBER),
50      CONSTRAINT  INVOICE_FK  FOREIGN KEY (CUS_CODE)  REFERENCES  ??????(??????)
51          ON UPDATE CASCADE
52          ON DELETE NO ACTION
53  );
54
```

- Replace the ??????(??????) with a proper table and column name so that it refers to the CUSTOMER's CUS_CODE.
-
- References to CUS_CODE in the CUSTOMER table; just see what is the PK in another table; CUSTOMER(CUS_CODE)

The value range for the INV_DATE must be: (2 points)

Answer here:

2018-01-01 (must be greater than this or later than this)

15. **To create the LINE table**, type the following code after the INVOICE table statement. Highlight only the codes for creating the LINE table and click  to execute the selected statement. From the SCHEMAS list, click  to refresh. You should see the LINE table below your schema.

```
56
57 • CREATE TABLE LINE (
58       INV_NUMBER  int      NOT NULL,
59       LINE_NUMBER int      NOT NULL,
60       P_CODE      varchar(10)     NOT NULL,
61       LINE_UNITS  decimal(9,2)    NOT NULL,
62       LINE_PRICE  decimal(9,2)    NOT NULL,
63       CONSTRAINT  LINE_PK PRIMARY KEY (INV_NUMBER, LINE_NUMBER),
64       CONSTRAINT  LINE_FK1    FOREIGN KEY (INV_NUMBER)    REFERENCES  ??????(??????)
65           ON UPDATE CASCADE
66           ON DELETE CASCADE,
67       CONSTRAINT  LINE_FK2    FOREIGN KEY (P_CODE)    REFERENCES  ??????(??????)
68           ON UPDATE CASCADE
69           ON DELETE NO ACTION
70   );
71
```

16. **Review the table**. From your schema, click the LINE table, right click, and choose “Table Inspector”. You should be able to see the configurations of the LINE table like the image below.

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

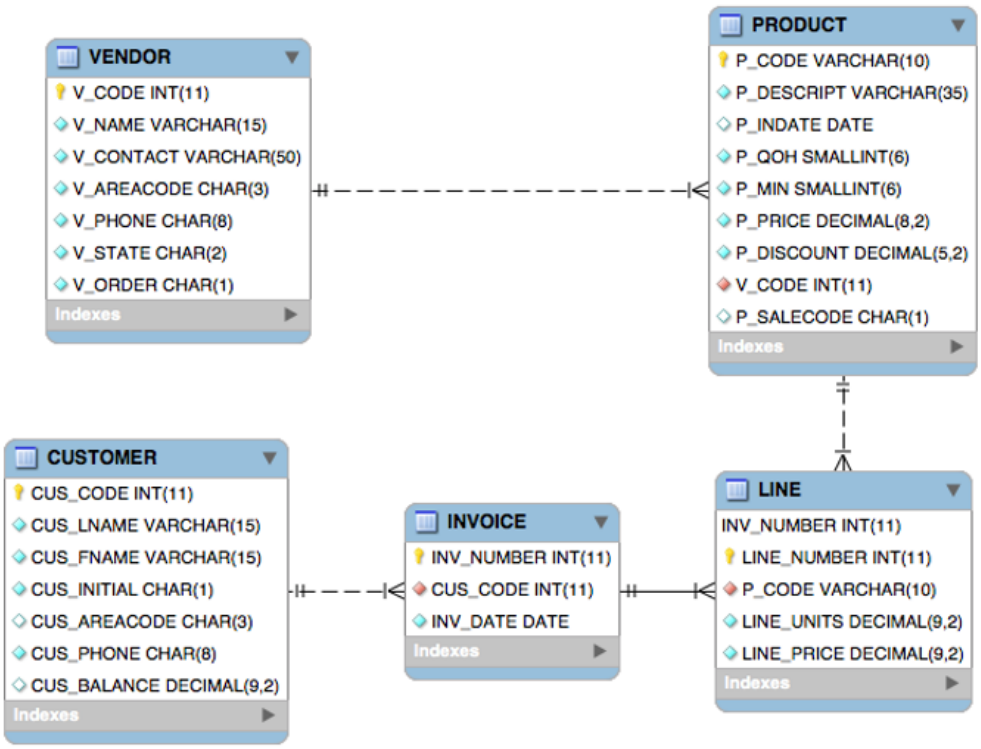
Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
INV_NUMBER	int(11)		NO			select,insert,update,references
LINE_NUMBER	int(11)		NO			select,insert,update,references
P_CODE	varchar(10)		NO	latin1	latin1_swedish...	select,insert,update,references
LINE_UNITS	decimal(9,2)		NO			select,insert,update,references
LINE_PRICE	decimal(9,2)		NO			select,insert,update,references

Click on the “Foreign keys” tab, what are the two foreign keys? What are the tables and columns that they refer to? (2 points)

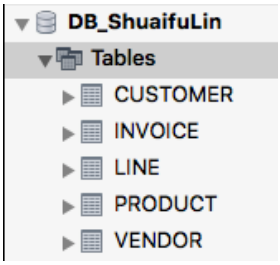
Answer here:

Constraint Name	Foreign Key	Referenced Table	Referenced Column
LINE_FK1	INV_NUMBER	INVOICE	(INV_NUMBER)
LINE_FK2	P_CODE	PRODUCT	(P_CODE)

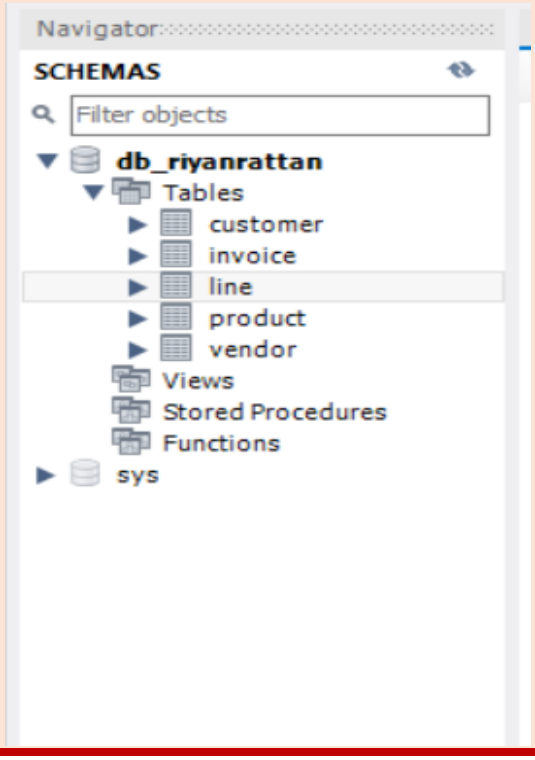
Symbol	Meaning
	Primary key
	Foreign key
	Column (Not null)
	Column (Could be null)
CUS_CODE INT(11)	Attribute (CUS_CODE) and its data type (INT(11))



17. After refreshing the schemas, use the Snipping or Grab app to capture your database like the image below (you may find a separate document for capturing instructions). Paste it as your answer. (2 points)



Answer here:
To receive grades, your image should clearly show your name as the database name and list the five tables that you created.



PART III: Alter Tables.

18. **To change the data type of PRODUCT's P_INDATE column**, type the following code after the create-table statements. Highlight only the codes for altering table and click to execute the selected statement. From the SCHEMAS list, click to refresh.

```
71
72 •  ALTER TABLE PRODUCT
73        MODIFY COLUMN P_INDATE  date;
74
```

ALTER TABLE PRODUCT

MODIFY COLUMN P_INDATE date;

19. From your schema, click the PRODUCT table, right click, and choose "Table Inspector". Click on the Columns tab. You should be able to see the data type for **P_INDATE** has been changed like the image below.

Info | Columns

Column	Type	Default Value
P_CODE	varchar(10)	
P_DESCRIPT	varchar(35)	
P_INDATE	date	
P_QOH	smallint(6)	
P_MIN	smallint(6)	
P_PRICE	decimal(8,2)	
P_DISCOUNT	decimal(5,2)	
V_CODE	int(11)	

Before:

Query 1 | db_riyanrattan.product

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
P_CODE	varchar(10)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
P_DESCRIPT	varchar(35)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
P_INDATE	datetime		NO			select,insert,update,references
P_QOH	smallint		NO			select,insert,update,references
P_MIN	smallint		NO			select,insert,update,references
P_PRICE	decimal(8,2)		NO			select,insert,update,references
P_DISCOUNT	decimal(5,2)		NO			select,insert,update,references
V_CODE	int		NO			select,insert,update,references

AFTER:

Query 1 | DB_RiyanRattan - Module 8-2 (... | db_riyanrattan.product

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
P_CODE	varchar(10)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
P_DESCRIPT	varchar(35)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
P_INDATE	date		YES			select,insert,update,references
P_QOH	smallint		NO			select,insert,update,references
P_MIN	smallint		NO			select,insert,update,references
P_PRICE	decimal(8,2)		NO			select,insert,update,references
P_DISCOUNT	decimal(5,2)		NO			select,insert,update,references
V_CODE	int		NO			select,insert,update,references

Info | Columns

Column	Type	Default Value
P_CODE	varchar(10)	
P_DESCRIPT	varchar(35)	
P_INDATE	date	
P_QOH	smallint(6)	
P_MIN	smallint(6)	
P_PRICE	decimal(8,2)	
P_DISCOUNT	decimal(5,2)	
V_CODE	int(11)	

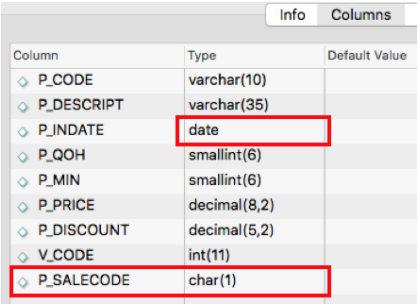
20. **<u>To add a column</u> into the PRODUCT table**, type the following code after the statement above. Highlight only the codes for altering table and click  to execute the selected statement. From the SCHEMAS list, click  to refresh.

```
74
75 •  ALTER TABLE PRODUCT
76        ADD (P_SALECODE CHAR(1));
77
```

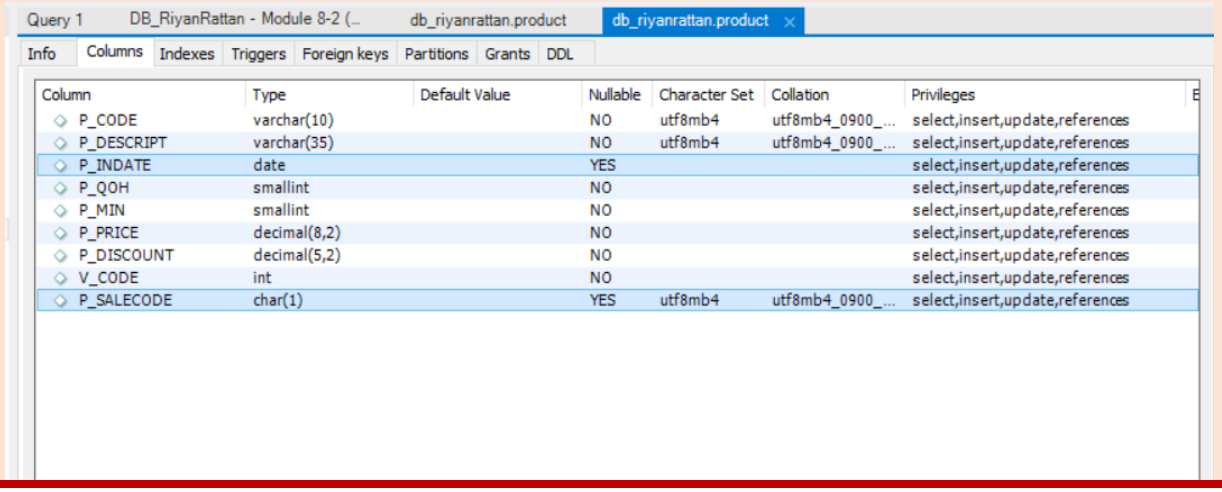
ALTER TABLE PRODUCT

ADD (P_SALECODE CHAR(1));

21. From your schema, click the <u>PRODUCT table, right click, and choose "Table Inspector"</u>. Click on the Columns tab. Use the Snipping or Grab app to capture your database like the image below (you may find a separate document for capturing instructions). Paste it as your answer. (2 points)



Answer here:
To receive grades, your image should clearly reflect the change in data type and the new column.

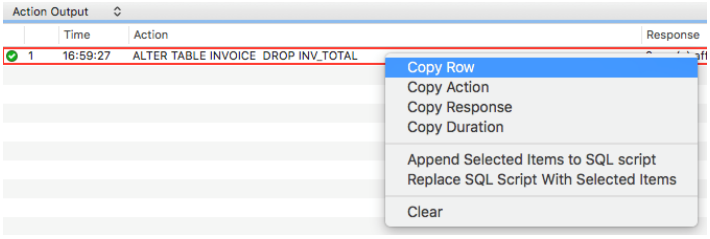


22. **To <u>drop a column form the INVOICE</u> table**, type the following code after the statement above. Highlight only the codes for altering table and click  to execute the selected statement.

```
78 •  ALTER TABLE INVOICE
79        DROP COLUMN INV_TOTAL;
```

ALTER TABLE INVOICE
DROP COLUMN INV_TOTAL;

Paste output message. After you drop the INV_TOTAL column, from the Action Output, find the output about the command, right click, and choose "Copy Row". Paste the output message as your answer (not the screen capture). (2 points)



ALTER TABLE INVOICE
DROP COLUMN INV_TOTAL;

Answer here:
Directly paste the text output message here.

23:08:16 ALTER TABLE INVOICE DROP COLUMN INV_TOTAL 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.125 sec

23. Save the script.
    a. Click File → Save Script
    b. Save the script file as "DB_YourFirstNameLastName_CREATE_TABLE.sql"
    c. You may now close the query tab.

PART IV: Add Table Rows (Insert Data).

24. Open a new query.

25. To insert data into the VENDOR table, type the following code after the statement above. Highlight only the codes for altering table and click  to execute the selected statement.

```
INSERT INTO VENDOR VALUES(21225,'Bryson, Inc.','Smithson','615','223-3234','TN','Y');
```

- The format is:
  INSERT INTO tablename VALUES (value1, value2, value3, ….., valueN)
  - The values must match the column order in the table. Each column in the table needs a value.

INSERT INTO VENDOR VALUES(21225, 'Bryson, Inc.', 'Smithson', '615', '223-3234', 'TN', 'Y');

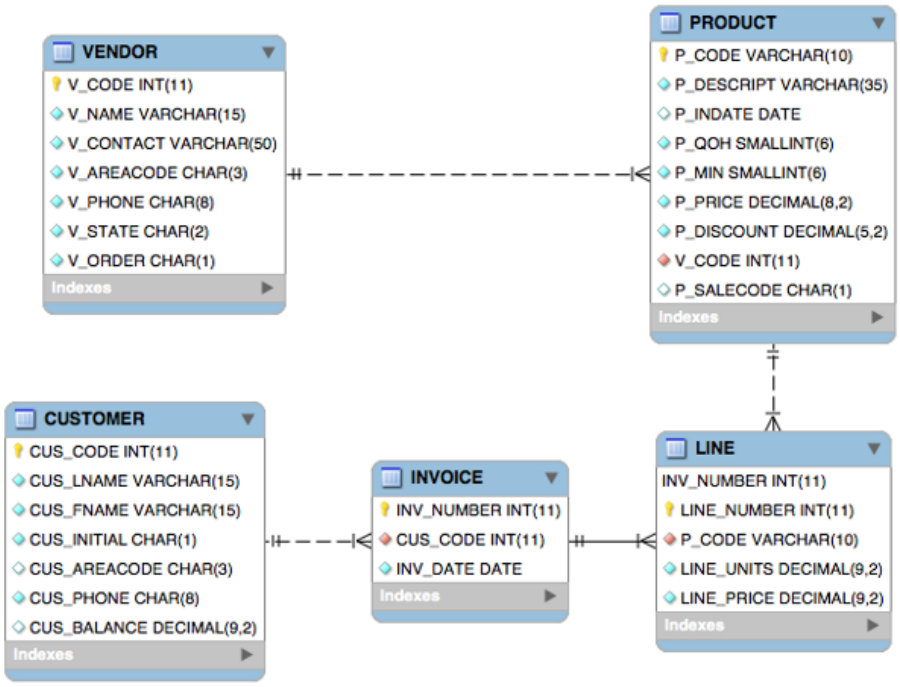
- **Alternatively**, you may insert the same data using the following codes. This method allows you to specify the columns (and column sequence) that you want to insert data into.

```
INSERT INTO VENDOR(V_Code, V_Name, V_Contact, V_Areacode, V_Phone, V_State, V_Order)
VALUES(21225,'Bryson, Inc.','Smithson','615','223-3234','TN','Y');
```

INSERT INTO VENDOR(V_Code, V_Name, V_Contact, V_Areacode, V_Phone, V_State, V_Order)
VALUES(21225, 'Bryson, Inc.', 'Smithson', '615', '223-3234', 'TN', 'Y');

- When inserting data, the data types of the values must match the data types in the table.
  - For **INT or DECIMAL**, just type the value, **without quotation marks** (‘ ’).
  - For **CHAR or VARCHAR**, must type values **within** quotation marks (‘ ’).

Symbol	Meaning
	Primary key
	Foreign key
	Column (Not null)
	Column (Could be null)
CUS_CODE INT(11)	Attribute (CUS_CODE) and its data type (INT(11))



From the inserted data, why is 615 enclosed within single quotation marks while 21225 is not? (2 points)

Answer here:

615 must be a CHAR/VARCHAR data type

21225 must be an INT/DECIMAL data type

26. Write and execute a SQL command to insert the following record into the **VENDOR** table. Remember to use Your Name. The data types should fit how they are defined in the table.

Column	V_CODE	V_Name	V_CONTACT	V_AREACODE	V_PHONE	V_STATE	V_ORDER
Value	21226	**Your FName LName**	UHD	713	221-8000	TX	Y

```
INSERT INTO VENDOR VALUES(21226, 'Riyan, Rattan', 'UHD', '713', '221-8000', 'TX', 'Y');
```

27. From your schema, click the VENDOR table, right click, and choose "Select Rows – Limit 1000". You will see a result like the image below. Use the Snipping or Grab app to capture your result like the image below (you may find a separate document for capturing instructions). Paste it as your answer. (2 points)

Result Grid | Filter Rows: Search | Edit:

V_CODE	V_NAME	V_CONTA...	V_AREACO...	V_PHONE	V_STATE	V_ORDER
21225	Bryson, Inc.	Smithson	615	223-3234	TN	Y
21226	Shuaifu Lin	UHD	713	221-8000	TX	Y
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Answer here:
To receive grades, your data should clearly show your name.

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

V_CODE	V_NAME	V_CONTACT	V_AREACODE	V_PHONE	V_STATE	V_ORDER
21225	Bryson, Inc.	Smithson	615	223-3234	TN	Y
21226	Riyan	Rattan	713	221-8000	TX	Y
NULL	NULL	NULL	NULL	NULL	NULL	NULL

28. To insert data into the PRODUCT table, type the following code after the statement above. Highlight only the codes for altering table and click ⚡ to execute the selected statement.

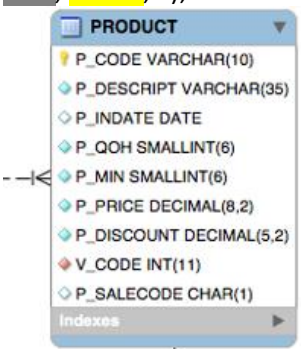
```
INSERT INTO PRODUCT VALUES('11QER/31','Power painter, 15 psi., 3-nozzle','2025-11-03',8,5,109.99,0.00,?????,'');
```

- Must replace the ????? with a proper value.

What value can "?????" be? Why? (2 points)

INSERT INTO PRODUCT VALUES('11QER/31', 'Power painter, 15 psi., 3-nozzle', '2015-11-03', 8, 5, 109.99, 0.00, ???????????, ' '

INSERT INTO PRODUCT VALUES('11QER/31', 'Power painter, 15 psi., 3-nozzle', '2015-11-03', 8, 5, 109.99, 0.00, **21225**, '');

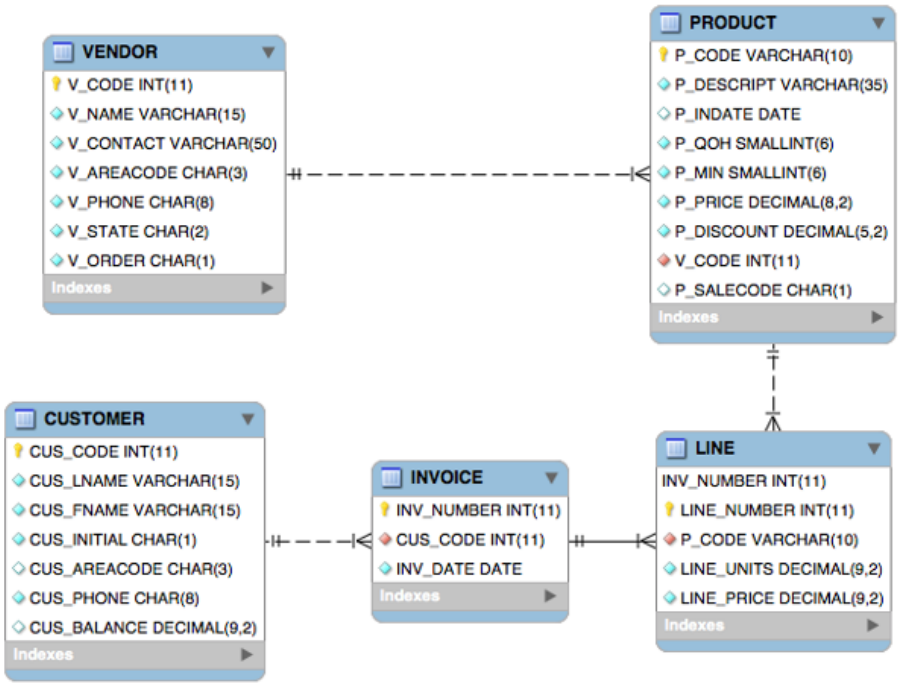


9
NOTE: INT don't have quotations

It's the V_CODE for the vendor table
you should replace the ????? with a valid vendor ID in the vendor table.

NOTE: that the PRODUCT is a child entity with the many, thus we have to add the quotations in the end.

Symbol	Meaning
	Primary key
	Foreign key
	Column (Not null)
	Column (Could be null)
CUS_CODE INT(11)	Attribute (CUS_CODE) and its data type (INT(11))



Answer here:
Hint: One of the integrity rules. Name it or explain it.

Referential; It's the V_CODE for the vendor table; you should replace the ????? with a valid vendor ID in the vendor table. (Before the PRODUCT comes VENDOR)

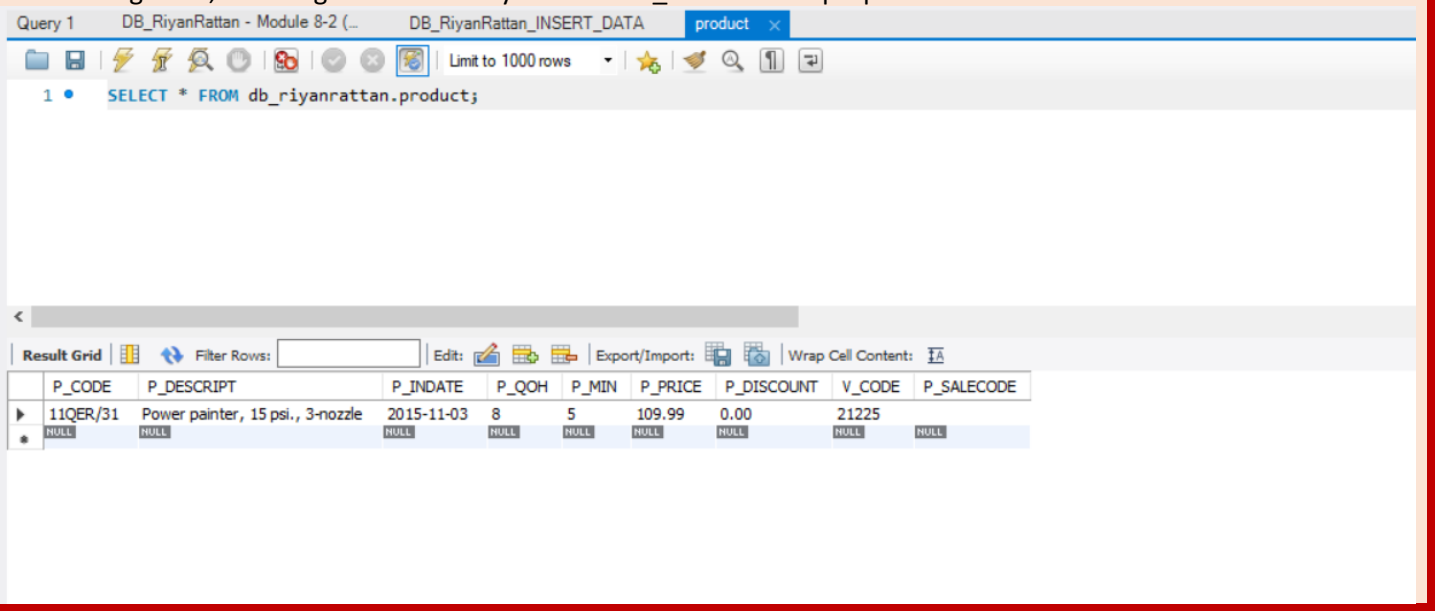
21225

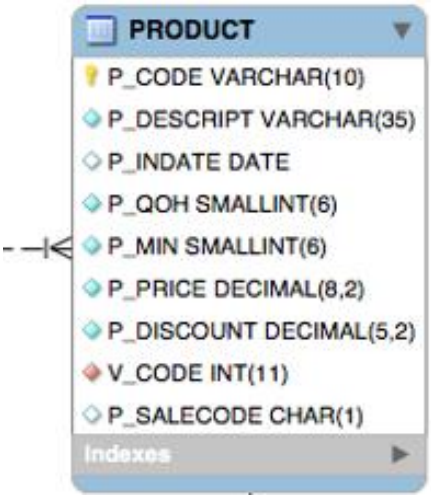
```
1
2
3 •  INSERT INTO VENDOR VALUES(21225, 'Bryson, Inc.', 'Smithson', '615', '223-3234', 'TN', 'Y');
4
5 •  INSERT INTO VENDOR VALUES(21226, 'Riyan Rattan', 'UHD', '713', '221-8000', 'TX', 'Y');
6
7 •  INSERT INTO PRODUCT VALUES('11QER/31', 'Power painter, 15 psi., 3-nozzle', '2015-11-03', 8, 5, 109.99, 0.00, 21225, '');
```

29. From your schema, click the PRODUCT table, right click, and choose "Select Rows – Limit 1000". You will see a result like the image below. Use the Snipping or Grab app to capture your result like the image below (you may find a separate document for capturing instructions). Paste it as your answer. (2 points)

Answer here:

To receive grades, the image should clearly show the V_CODE with a proper value.





30. Save the query.
    a. Click File → Save Script
    b. Save the script file as "DB_YourFirstNameLastName_INSERT_DATA.sql"

Congrats! End of Exercise!