CIT 225 Final Project

Due: 12/8/21

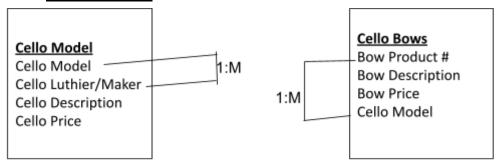
1. My database's topic is: Cellos

1A. My 4 categories are: Cello Models, Cello Bows, Cello Customers and Cello Accessories

2. Business Rules:

- A cello luthier can make more than one cello model
- A cello bow can be recommended for more than one cello A cello customer can only buy one cello model at a given time.
- Many customers can buy the same bow type
- A cello customer can purchase more than one cello accessory

3. Tables and ERD:



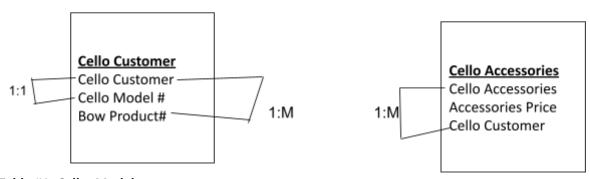


Table #1- Cello_Models

Cello_Model (Primary Key)	Cello_Luthier	Cello_Desc	Cello_Price
01A	Michael Gerlach	Deep reddish brown antiqued varnish.	\$3,800.00

02B	Eastman	Antique Markneukirchen style.	\$3,410.00
03C	Snow Workshop	Italian spruce top, flamed maple back.	\$4,150.00
04D	Snow Workshop	A Two piece back made of flamed maple.	\$4,450.00
05E	Pierre Marcel	Highly flamed, gorgeous bosnian tone woods.	\$9,800.00

Table #2: Cello_Bows

Bow_Product_Num (Primary Key)	Bow_Desc	Bow_Price	Cello_Model (Foreign Key)
1234	High grade brazilwood bows	\$295	02B
1234	High grade brazilwood bows	\$295	01A
4567	Excellent standard carbon fiber bow.	\$150	02B
8910	Nickel mounted bows made in the french style	\$1250	04D
1112	Pernambuco wood,offers flexibility and tension	\$1200	03C
1314	Made from recycled wood and naturally dried out	\$1,500	05E

Table #3: Cello_Customer

Cello_C (Primary Key)	Cello_Model (Foreign Key)	Bow_Product_Num(Foreign Key)
Mark Hamil	01A	1234

Carrie Fisher	02B	1234
Harrison Ford	03C	1112
Daisy Ridley	04D	8910
Adam Driver	05E	1314

Table 4: Cello_Accessories

Cello_Access(Primary Key)	Access_Price	Cello_C (Foreign Key)
Rosin	\$8.00	Mark Hamil
Rosin	\$8.00	Carrie Fisher
Music Stand	\$19.95	Adam Driver
Cello Mute	\$12.99	Harrison Ford
Sheet Music	\$10.00	Daisy Ridley
Sheet Music	\$10.00	Mark Hamil
Endpin	\$5.00	Carrie Fisher

4a. Create The Database in MySQL

Command to create database: CREATE DATABASE CelloFinalProject;

Command to use/enter CelloFinalProject Database: USE CelloFinalProject;

4b. Create The Tables in MySQL

Create Table #1: Cello_Models Command:

```
CREATE TABLE Cello_Models (
```

```
Cello_Model varchar(32),
       Cello_Luthier varchar(32),
       Cello Desc varchar(200),
       Cello_Price decimal(15,2)
);
Create Table #2: Cello_Bows Command:
CREATE TABLE Cello_Bows
       Bow_Product_Num int(10),
       Bow_Desc varchar(200),
       Bow_Price
                    decimal(15,2),
       Cello_Model varchar(32)
);
Create Table#3: Cello_Customer Command:
CREATE TABLE Cello_Customer
       Cello_C varchar(100),
       Cello_Model varchar(32),
        Bow_Product_Num int(10)
);
Create Table#4: Cello_Accessories Command:
CREATE TABLE Cello_Accesories
       Cello_Access varchar(100),
       Access_Price decimal(15,2),
       Cello_C varchar(100)
);
5. Insert at least 5 records into each table
Table#1-Insert Records Commands:
INSERT INTO Cello_Models (Cello_Model, Cello_Luthier, Cello_Desc, Cello_Price) VALUES ('01A',
'Michael
Gerlach', 'Deep reddish brown antiqued varnish', '3800.00');
```

INSERT INTO Cello_Models (Cello_Model, Cello_Luthier, Cello_Desc, Cello_Price) VALUES ('02B', 'Eastman', 'Antique Markneukirchen style', '3,410.00');

INSERT INTO CelloModels (Cello_Model, Cello_Luthier, Cello_Desc, Cello_Price) VALUES ('03C', 'Snow Workshop', 'Italian spruce top, flamed maple back.', 4,150.00');

INSERT INTO CelloModels (Cello_Model, Cello_Luthier, Cello_Desc, Cello_Price) VALUES ('04D', 'Snow Workshop', 'Two piece back made of flamed maple', '\$4,450.00');

INSERT INTO CelloModels (Cello_Model, Cello_Luthier, Cello_Desc, Cello_Price) VALUES ('05E', 'Pierre Marcel', 'Highly flamed, gorgeous bosnian tone woods', '9,800.00');

Table #2- Insert Records Commands

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('1234', 'High grade brazilwood bow', '295.00', '02B');

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('1234', 'High grade brazilwood bow', '295.00', '01A');

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('4567', 'Excellent standard carbon fiber bow', '150.00', '02B');

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('8910', 'Nickel mounted bows made in the french style ',1250.00', '04D');

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('1112', 'Pernambuco wood, offers flexibility and tension',1200.00', '03C');

INSERT INTO Cello_Bows(Bow_Product_Num, Bow_Desc,Bow_Price,Cello_Model) VALUES ('1314', 'Made from recycled wood and naturally dried out',1500.00', '05E');

Table #3- Insert Records Commands

INSERT INTO Cello_Customer(Cello_C, Cello_Model, Bow_Product_Num) VALUES ('Mark Hamil', '01A', '1234'); INSERT INTO Cello_Customer(Cello_C, Cello_Model, Bow_Product_Num) VALUES ('Carrie Fisher', '02B, '1234');

INSERT INTO Cello Customer(Cello C, Cello Model, Bow Product Num) VALUES ('Harrison Ford', '03C', '1112');

INSERT INTO Cello Customer(Cello C, Cello Model, Bow Product Num) VALUES ('Daisy Ridley', '04D', '8910');

INSERT INTO Cello_Customer(Cello_C, Cello_Model, Bow_Product_Num) VALUES ('Adam Driver', '05E', '1314');

Table #4- Insert Records Commands

```
INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Rosin', '8.00', 'Mark Hamil');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Rosin', '8.00', 'Carrie Fisher');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Music Stand', '19.95', 'Adam Driver');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Cello Mute', '12.99', 'Harrison Ford');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Sheet Music', '10.00', 'Daisy Ridley');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Sheet Music', '10.00', 'Mark Hamil');

INSERT INTO Cello_Accessories(Cello_Access,Access_Price,Cello_C) VALUES ('Endpin', '5.00', 'Carrie Fisher');
```

6. Perform Simple Queries To Prove That All Records Were Inserted In The Tables:

Table#1- Prove that Table Cello_Models' Records Were Added (Divided up the command to 2 parts for readability purposes)

Command#1: SELECT Cello_Model, Cello_Luthier FROM Cello_Models;

Command#2: SELECT Cello_Desc, Cello_Price FROM Cello_Models;

Table#2- Prove that Table Bow_Models' Records Were Added (Divided up the command to 2 parts for readability purposes)

Command#1: SELECT Bow Product Num, Bow Desc FROM Cello Bows

Command#2: SELECT Bow_Price,Cello_Model FROM Cello_Bows;

Table#3- Prove that Table Cello_Customer's Records Were Added

Command: SELECT * FROM Cello_Customer;

Table#4- Prove that Table Cello_Accessories' Records Were Added

Command: SELECT * FROM Cello_Accessories;

```
mysql> SELECT * FROM Cello Accessories;
| Cello Access | Access Price | Cello C
Rosin
                     8.00 | Mark Hamil
Rosin
                     8.00 | Carrie Fisher |
| Music Stand |
                    19.95 | Adam Driver
| Cello Mute
                     12.99 | Harrison Ford
| Sheet Music |
                     10.00 | Daisy Ridley
| Sheet Music |
                     10.00 | Mark Hamil
| Endpin |
                     5.00 | Carrie Fisher
7 rows in set (0.00 sec)
```

7. Perform a semi-complex query on each table, retrieving all columns from each table sorted.

Table #1 Command: SELECT * FROM Cello_Models ORDER BY Cello_Price;

```
mysql> SELECT * FROM Cello_Models ORDER BY Cello_Price;
 Cello_Model | Cello_Luthier | Cello_Desc
                                                                  | Cello_
| 02B
            Eastman
                             | Antique Markneukirchen style
                                                                       34
10.00 |
            | Michael Gerlach | Deep reddish brown antiqued varnish |
01A
                                                                       38
00.00
            | Snow Workshop | Italian spruce top,flamed maple back |
03C
50.00 |
            | Snow Workshop | Two piece back made of flamed maple |
04D
50.00
| 05E
            | Pierre Marcel | Highly flamed, bosnian tone wood
                                                                       98
00.00
5 rows in set (0.00 sec)
```

Table #2 Command: SELECT * FROM Cello Bows ORDER BY Bow Product Num;

```
mysql> SELECT * FROM Cello_Bows ORDER BY Bow_Product_Num;
Bow_Product_Num | Bow_Desc
                                                                 | Bow_Price
| Cello_Model |
            1112 | Pernambuco wood, offers flexibility and tension | 1200.00
| 03C
            1234 | High grade brazilwood bow
                                                                    295.00
| 02B
            1234 | High grade brazilwood bow
| 01A
            1314 | Made from recycled wood and naturally dried out | 1500.00
| 05E
           4567 | Excellent standard carbon fiber bow
                                                                    150.00
| 02B
            8910 | Nickel mounted bows made in the french style | 1250.00
| 04D
6 rows in set (0.00 sec)
```

Table #3 Command: SELECT * FROM Cello Customer ORDER BY Cello C;

```
mysql> SELECT * FROM Cello_Customer ORDER BY Cello_C;
 Cello C
               | Cello_Model | Bow_Product_Num |
| Adam Driver
               | 05E
                                          1314
 Carrie Fisher | 02B
                                          1234
| Daisy Ridley | 04D
                                          8910
 Harrison Ford | 03C
                                          1112 I
 Mark Hamil
               01A
                                          1234
5 rows in set (0.00 sec)
```

Table#4 Command: SELECT * FROM Cello Accessories ORDER BY Cello Access DESC;

8. Perform a semi-complex query on each table where you select two columns from each table and sort them

Table#1 Command: SELECT Cello Model, Cello Price FROM Cello Models ORDER BY Cello Price DESC;

Table#2 Command: SELECT Bow_Product_Num, Bow_Price FROM Cello_Bows ORDER BY Bow_Price ASC;

Table#3 Command: SELECT Cello_C, Cello_Model FROM Cello_Customer ORDER BY Cello_C;

Table#4 Command: SELECT Cello_C, Access_Price FROM Cello_Accessories ORDER BY Access_Price DESC;

9. Perform a semi-complex query on each table where you select two columns from each table and narrow down the results via some statement that specifies that you only want to retrieve those records where some condition is met

Table#1 Command: SELECT Cello_Luthier, Cello_Model FROM Cello_Models WHERE Cello_Luthier='Snow Workshop';

Table#2 Command: SELECT Bow_Product_Num,Bow_Desc FROM Cello_Bows WHERE Bow_Desc= 'High grade brazilwood bow';

Table#3 Command: SELECT Cello_C,Cello_Model FROM Cello_Customer WHERE Cello_C='Mark Hamil';

Table#4 Command: SELECT Cello_Access, Access_Price FROM Cello_Accessories WHERE Access_Price >=10.00;

```
mysql> SELECT Cello_Access,Access_Price FROM Cello_Accessories WHERE Access_Price >=10.00;

| Cello_Access | Access_Price |
| Music Stand | 19.95 |
| Cello Mute | 12.99 |
| Sheet Music | 10.00 |
| Sheet Music | 10.00 |
4 rows in set (0.00 sec)
```

10. Perform 10 complex queries

Complex Query #1:

```
SELECT Cello_Customer.Cello_C, Cello_Models.Cello_Price, Cello_Accessories.Access_Price FROM((Cello_Customer INNER JOIN Cello_Models ON Cello_Customer.Cello_Model = Cello_Customer.Cello_Model) INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C = Cello_Accessories.Cello_C) WHERE Cello Price <=3410.00 AND Access Price<=5.00
```

ORDER BY Cello C;

Complex Query#2:

SELECT Cello_Customer.Cello_C, Cello_Bows.Bow_Price, Cello_Accessories.Cello_Access FROM((Cello_Customer

INNER JOIN Cello_Bows ON Cello_Customer.Bow_Product_Num = Cello_Bows.Bow_Product_Num)
INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C = Cello_Accessories.Cello_C)
WHERE Cello_Access = 'Sheet Music'

ORDER BY Cello C;

Complex Query#3:

```
{\tt SELECT\ Cello\_Models. Cello\_Luthier,\ Cello\_Bows. Bow\_Price, Cello\_Customer. Cello\_CFROM\ ((Cello\_Models\ Cello\_Models\ Cel
```

INNER JOIN Cello_Bows ON Cello_Models.Cello_Model = Cello_Bows.Cello_Model)
INNER JOIN Cello_Customer ON Cello_Models.Cello_Model = Cello_Customer.Cello_Model)
WHERE Bow Price<200.00 AND Cello Luthier = 'Eastman'

ORDER BY Cello C;

Complex Query#4:

```
SELECT Cello_Models.Cello_Price, Cello_Bows.Bow_Price FROM Cello Models
```

INNER JOIN Cello_Bows ON Cello_Models.Cello_Model = Cello_Bows.Cello_Model WHERE Cello_Price > 4000.00 AND Bow_Price > 1000.00

ORDER BY Cello_Price;

Complex Query#5:

```
SELECT Cello_Bows.Bow_Desc, Cello_Customer.Cello_C
```

FROM Cello_Bows

INNER JOIN Cello_Customer ON Cello_Bows.Bow_Product_Num=Cello_Customer.Bow_Product_Num WHERE Bow Desc = 'High grade brazilwood bow'

ORDER BY Cello C;

Complex Query#6:

```
SELECT Cello_Customer.Cello_Model, Cello_Accessories.Access_Price
```

FROM Cello Customer

INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C = Cello_Accessories.Cello_C

WHERE Access Price <=10.00

ORDER BY Cello Access;

Complex Query #7:

```
SELECT Cello_Models.Cello_Price, Cello_Customer.Cello_C
FROM Cello_Models
INNER JOIN Cello_Customer ON Cello_Models.Cello_Model = Cello_Customer.Cello_Model
WHERE Cello_Price >=4450.00
ORDER BY Cello_C;
```

Complex Query#8:

```
SELECT Cello_Models.Cello_Luthier, Cello_Bows.Bow_Price,Cello_Customer.Cello_C
FROM ((Cello_Models
INNER JOIN Cello_Bows ON Cello_Models.Cello_Model = Cello_Bows.Cello_Model)
INNER JOIN Cello_Customer ON Cello_Models.Cello_Model = Cello_Customer.Cello_Model)
WHERE Bow_Price>1200.00 AND Cello_Luthier ='Snow Workshop'
ORDER BY Cello_C;
```

Complex Query#9:

```
SELECT Cello_Customer.Cello_C, Cello_Bows.Bow_Price, Cello_Accessories.Cello_Access
FROM((Cello_Customer
INNER JOIN Cello_Bows ON Cello_Customer.Bow_Product_Num = Cello_Bows.Bow_Product_Num)
INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C = Cello_Accessories.Cello_C)
WHERE Cello_Access = 'Rosin'
ORDER BY Cello_C;
```

```
mysql> SELECT Cello Customer.Cello C, Cello Bows.Bow Price,Cello Accessories.Ce
llo_Access
    -> FROM((Cello_Customer
    -> INNER JOIN Cello_Bows ON Cello_Customer.Bow_Product_Num = Cello_Bows.Bow
Product Num)
    -> INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C=Cello_Accessories
.Cello_C)
    -> WHERE Cello_Access='Rosin'
    -> ORDER BY Cello_C;
               | Bow_Price | Cello_Access |
| Cello_C
| Carrie Fisher | 295.00 | Rosin
 Carrie Fisher |
                | 295.00 | Rosin
| 295.00 | Rosin
| 295.00 | Rosin
 Mark Hamil
Mark Hamil
4 rows in set (0.00 sec)
```

Complex Query#10:

```
SELECT Cello_Customer.Cello_C, Cello_Models.Cello_Price, Cello_Accessories.Access_Price FROM((Cello_Customer INNER JOIN Cello_Models ON Cello_Customer.Cello_Model = Cello_Customer.Cello_Model) INNER JOIN Cello_Accessories ON Cello_Customer.Cello_C = Cello_Accessories.Cello_C) WHERE Cello_Price >=9000.00 ORDER BY Cello_C;
```

Extra Credit Question: Did you shed a tear during this project? (Worth 5 Points)

I absolutely did. It was a huge single tear that fell down my face in slow motion. I also started breakdancing on the floor because I was mentally spent. Thank you for this experience.