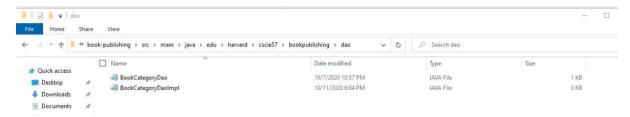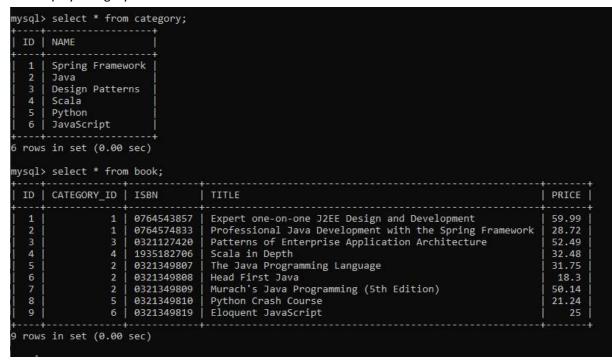1. Dao directory structure:

2. Display Category and Book table content.

3. Find all books by category name
java -jar./target/select-books-by-category-name-app.jar

edu.harvard.cscie57.bookpublishing.crud.SelectBooksByCategoryNameApp

4. Find all categories

C:\CSCIE57\assignments\book-publishing>java -jar ./target/find-all-categories-app.jar
edu.harvard.cscie57.bookpublishing.crud.FindAllCategoriesApp

```
C:\CSCIE57\assignments\Assignment2.1>java -jar ./target/find-all-categories-app.jar edu.harvard.cscie57.bookpublishing.crud.FindAllCategoriesApp
2020-11-15 12:59:51,403 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== Start of Find All Categories ===============
2020-11-15 12:59:51,887 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=1, name='Spring Framework'}
2020-11-15 12:59:51,887 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=2, name='Java'}
2020-11-15 12:59:51,888 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=3, name='Design Patterns'}
2020-11-15 12:59:51,888 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=4, name='Scala'}
2020-11-15 12:59:51,888 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=5, name='Python'}
2020-11-15 12:59:51,888 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Category{id=6, name='JavaScript'}
2020-11-15 12:59:51,888 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== End of Find All Categories ===============
```

5. Find all books

C:\CSCIE57\assignments\book-publishing>java -jar ./target/find-all-books-app.jar
edu.harvard.cscie7.jdbc.App.FindAllBooksApp

```
C:\CSCIE57\assignments\Assignment2.1>java -jar ./target/find-all-books-app.jar edu.harvard.cscie7.jdbc.App.FindAllBooksApp
2020-11-15 13:00:44,412 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== Start of Find All Books ===============
2020-11-15 13:00:44,918 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=1, category_id=1, isbn='0764543857', title='Expert one-on-one J2EE Design and Development', price=59.99}
2020-11-15 13:00:44,918 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=2, category_id=1, isbn='0764574833', title='Professional Java Development with the Spring Framework', price=28.72}
2020-11-15 13:00:44,919 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=3, category_id=3, isbn='0321127420', title='Patterns of Enterprise Application Architecture', price=52.49}
2020-11-15 13:00:44,919 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=4, category_id=4, isbn='1935182706', title='Scala in Depth', price=32.48}
2020-11-15 13:00:44,919 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=5, category_id=2, isbn='0321349807', title='The Java Programming Language', price=31.75}
2020-11-15 13:00:44,919 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=6, category_id=2, isbn='0321349808', title='Head First Java', price=18.3}
2020-11-15 13:00:44,919 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=7, category_id=2, isbn='0321349809', title='Murach Java Programming (5th Edition)', price=50.14}
2020-11-15 13:00:44,920 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=8, category_id=5, isbn='0321349810', title='Python Crash Course', price=21.24}
2020-11-15 13:00:44,920 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=9, category_id=6, isbn='0321349819', title='Eloquent JavaScript', price=25.0}
2020-11-15 13:00:44,920 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== End of Find All Books ===============
```

6. Insert a new book with existing category id

C:\CSCIE57\assignments\book-publishing>java -jar ./target/insert-new-book-app.jar
edu.harvard.cscie57.bookpublishing.crud.InsertNewBookApp
Inserted a new book id = 10
Book{**id=10, category_id=2, isbn='0321348888', title='Effective Java', price=22.88**}

```
C:\CSCIE57\assignments\Assignment2.1>java -jar ./target/insert-new-book-app.jar edu.harvard.cscie57.bookpublishing.crud.InsertNewBookAp
2020-11-15 13:04:50,650 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== Start of Insert New Book ===============
2020-11-15 13:04:51,146 INFO edu.harvard.cscie57.jdbc.dao.BookCategoryDaoImpl: Inserted a new book with id: 10
2020-11-15 13:04:51,163 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=1, category_id=1, isbn='0764543857', title='Expert one-on-one J2EE Design and Development', price=59.99}
2020-11-15 13:04:51,163 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=2, category_id=1, isbn='0764574833', title='Professional Java Development with the Spring Framework', price=28.72}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=3, category_id=3, isbn='0321127420', title='Patterns of Enterprise Application Architecture', price=52.49}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=4, category_id=4, isbn='1935182706', title='Scala in Depth', price=32.48}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=5, category_id=2, isbn='0321349807', title='The Java Programming Language', price=31.75}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=6, category_id=2, isbn='0321349808', title='Head First Java', price=18.3}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=7, category_id=2, isbn='0321349809', title='Murach Java Programming (5th Edition)', price=50.14}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=8, category_id=5, isbn='0321349810', title='Python Crash Course', price=21.24}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=9, category_id=6, isbn='0321349819', title='Eloquent JavaScript', price=25.0}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=10, category_id=2, isbn='0321348888', title='Effective Java', price=22.88}
2020-11-15 13:04:51,164 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== End of Insert New Book ===============
```

The corresponding row(id=10) is added by the application to the BOOK table

```
mysql> select * from book;
+----+-------------+------------+---------------------------------------------------------+-------+
| ID | CATEGORY_ID | ISBN       | TITLE                                                   | PRICE |
+----+-------------+------------+---------------------------------------------------------+-------+
|  1 |           1 | 0764543857 | Expert one-on-one J2EE Design and Development           | 59.99 |
|  2 |           1 | 0764574833 | Professional Java Development with the Spring Framework | 28.72 |
|  3 |           3 | 0321127420 | Patterns of Enterprise Application Architecture         | 52.49 |
|  4 |           4 | 1935182706 | Scala in Depth                                          | 32.48 |
|  5 |           2 | 0321349807 | The Java Programming Language                           | 31.75 |
|  6 |           2 | 0321349808 | Head First Java                                         |  18.3 |
|  7 |           2 | 0321349809 | Murach Java Programming (5th Edition)                  | 50.14 |
|  8 |           5 | 0321349810 | Python Crash Course                                     | 21.24 |
|  9 |           6 | 0321349819 | Eloquent JavaScript                                     |    25 |
| 10 |           2 | 0321348888 | Effective Java                                          | 22.88 |
+----+-------------+------------+---------------------------------------------------------+-------+
10 rows in set (0.00 sec)
```

7. Find a book with *id =7*. Update the book's price, setting it to **88.88.**

C:\CSCIE57\assignments\book-publishing>java -jar ./target/update-book-app.jar
edu.harvard.cscie57.bookpublishing.App.UpdateBookApp
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{**id=7,**
category_id=2, isbn='0321349809', title='Murach Java Programming (5th Edition)', price=**88.88**}

```
C:\CSCIE57\assignments\Assignment2.1>java -jar ./target/update-book-app.jar edu.harvard.cscie57.bookpublishing.App.UpdateBookApp
2020-11-15 13:07:08,099 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== Start of Update Book listBook ===============
2020-11-15 13:07:08,608 INFO edu.harvard.cscie57.jdbc.dao.BookCategoryDaoImpl: Existing book updated with id: 7
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=1, category_id=1, isbn='0764543857', title='Expert one-on-one J2EE Design and Development', price=59.99}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=2, category_id=1, isbn='0764574833', title='Professional Java Development with the Spring Framework', price=28.72}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=3, category_id=3, isbn='0321127420', title='Patterns of Enterprise Application Architecture', price=52.49}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=4, category_id=4, isbn='1935182706', title='Scala in Depth', price=32.48}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=5, category_id=2, isbn='0321349807', title='The Java Programming Language', price=31.75}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=6, category_id=2, isbn='0321349808', title='Head First Java', price=18.3}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=7, category_id=2, isbn='0321349809', title='Murach Java Programming (5th Edition)', price=88.88}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=8, category_id=5, isbn='0321349810', title='Python Crash Course', price=21.24}
2020-11-15 13:07:08,626 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=9, category_id=6, isbn='0321349819', title='Eloquent JavaScript', price=25.0}
2020-11-15 13:07:08,627 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=10, category_id=2, isbn='0321348888', title='Effective Java', price=22.88}
2020-11-15 13:07:08,627 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: =============== End of Update Book listBook ===============
```

Notice in the Book table the price is changed for book.id = 7

```
mysql> select * from book;
+----+-------------+------------+-------------------------------------------------------+--------+
| ID | CATEGORY_ID | ISBN       | TITLE                                                 | PRICE  |
+----+-------------+------------+-------------------------------------------------------+--------+
|  1 |           1 | 0764543857 | Expert one-on-one J2EE Design and Development         | 59.99  |
|  2 |           1 | 0764574833 | Professional Java Development with the Spring Framework| 28.72  |
|  3 |           3 | 0321127420 | Patterns of Enterprise Application Architecture       | 52.49  |
|  4 |           4 | 1935182706 | Scala in Depth                                        | 32.48  |
|  5 |           2 | 0321349807 | The Java Programming Language                          | 31.75  |
|  6 |           2 | 0321349808 | Head First Java                                        | 18.3   |
|  7 |           2 | 0321349809 | Murach Java Programming (5th Edition)                 | 88.88  |
|  8 |           5 | 0321349810 | Python Crash Course                                   | 21.24  |
|  9 |           6 | 0321349819 | Eloquent JavaScript                                   | 25     |
| 10 |           2 | 0321348888 | Effective Java                                        | 22.88  |
+----+-------------+------------+-------------------------------------------------------+--------+
10 rows in set (0.00 sec)
```

8. Delete the book with id = 7. Notice below that there is no book with id = 7 in the list of all books
C:\CSCIE57\assignments\book-publishing>java -jar ./target/delete-book-app.jar
edu.harvard.cscie57.bookpublishing.crud.DeleteBookApp

```
C:\CSCIE57\assignments\Assignment2.1>java -jar ./target/delete-book-app.jar edu.harvard.cscie57.bookpublishing.crud.DeleteBookApp
2020-11-15 13:10:55,674 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: ============== Start of Delete book ==============
2020-11-15 13:10:56,237 INFO edu.harvard.cscie57.jdbc.dao.BookCategoryDaoImpl: Deleted book with id: .7
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=1, category_id=1, isbn='0764543857', title='Expert one-on-one J2EE Design and Development', price=59.99}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=2, category_id=1, isbn='0764574833', title='Professional Java Development with the Spring Framework', price=28.72}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=3, category_id=3, isbn='0321127420', title='Patterns of Enterprise Application Architecture', price=52.49}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=4, category_id=4, isbn='1935182706', title='Scala in Depth', price=32.48}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=5, category_id=2, isbn='0321349807', title='The Java Programming Language', price=31.75}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=6, category_id=2, isbn='0321349808', title='Head First Java', price=18.3}
2020-11-15 13:10:56,259 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=8, category_id=5, isbn='0321349810', title='Python Crash Course', price=21.24}
2020-11-15 13:10:56,260 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=9, category_id=6, isbn='0321349819', title='Eloquent JavaScript', price=25.0}
2020-11-15 13:10:56,260 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: Book{id=10, category_id=2, isbn='0321348888', title='Effective Java', price=22.88}
2020-11-15 13:10:56,260 INFO edu.harvard.cscie57.jdbc.config.NamedJdbcCfg: ============== End of Delete book ==============
```

Also the book with id = 7 is not in the BOOK table.

```
mysql> select * from book;
+----+-------------+------------+-------------------------------------------------------+--------+
| ID | CATEGORY_ID | ISBN       | TITLE                                                 | PRICE  |
+----+-------------+------------+-------------------------------------------------------+--------+
|  1 |           1 | 0764543857 | Expert one-on-one J2EE Design and Development         | 59.99  |
|  2 |           1 | 0764574833 | Professional Java Development with the Spring Framework| 28.72  |
|  3 |           3 | 0321127420 | Patterns of Enterprise Application Architecture       | 52.49  |
|  4 |           4 | 1935182706 | Scala in Depth                                        | 32.48  |
|  5 |           2 | 0321349807 | The Java Programming Language                          | 31.75  |
|  6 |           2 | 0321349808 | Head First Java                                        | 18.3   |
|  8 |           5 | 0321349810 | Python Crash Course                                   | 21.24  |
|  9 |           6 | 0321349819 | Eloquent JavaScript                                   | 25     |
| 10 |           2 | 0321348888 | Effective Java                                        | 22.88  |
+----+-------------+------------+-------------------------------------------------------+--------+
9 rows in set (0.00 sec)
```