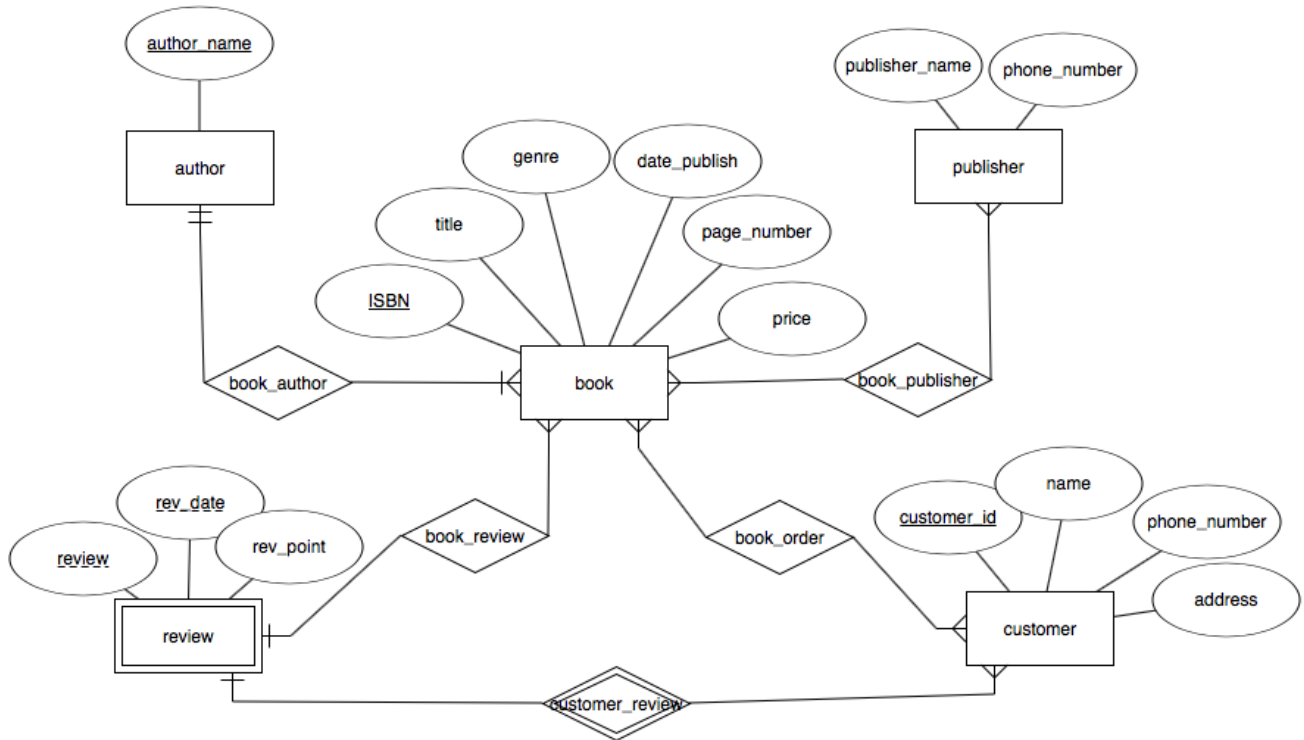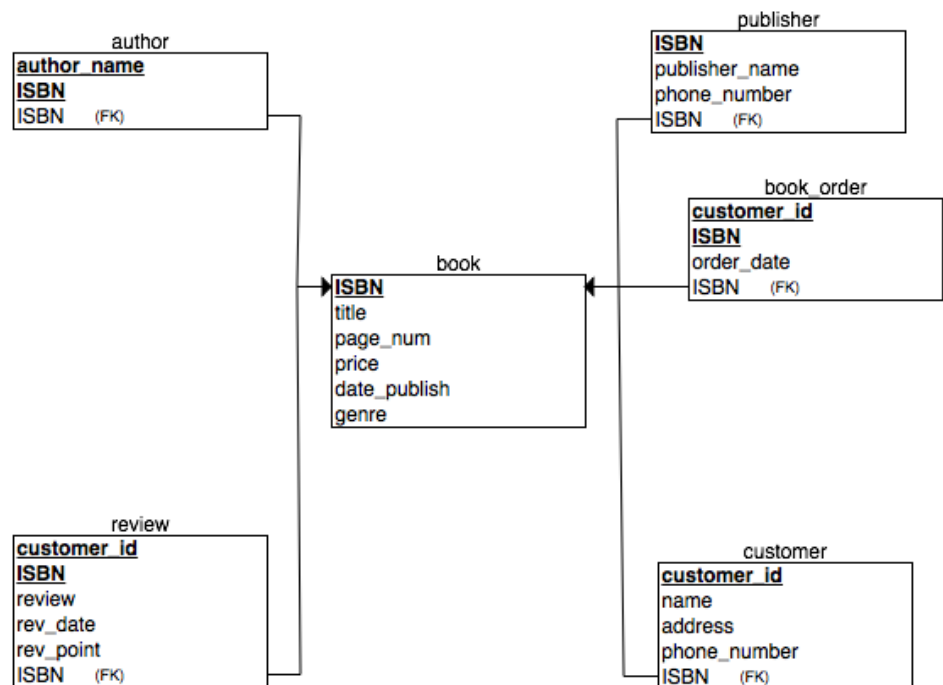1. ER-Diagram

2. Database schema

3. Normalization

book (<u>ISBN</u>, title, page_num, price, date_publish, genre);
ISBN is a super key; thus lossless join and dependency preservation are possible.
author (<u>author_name, ISBN</u>);
author_name and isbn are both super key; thus lossless join and dependency preservation are possible.
publisher (publisher_name, phone_number, <u>ISBN</u>);
isbn is a super key; thus lossless join and dependency preservation are possible.
customer (<u>customer_id</u>, name, address, phone_number);
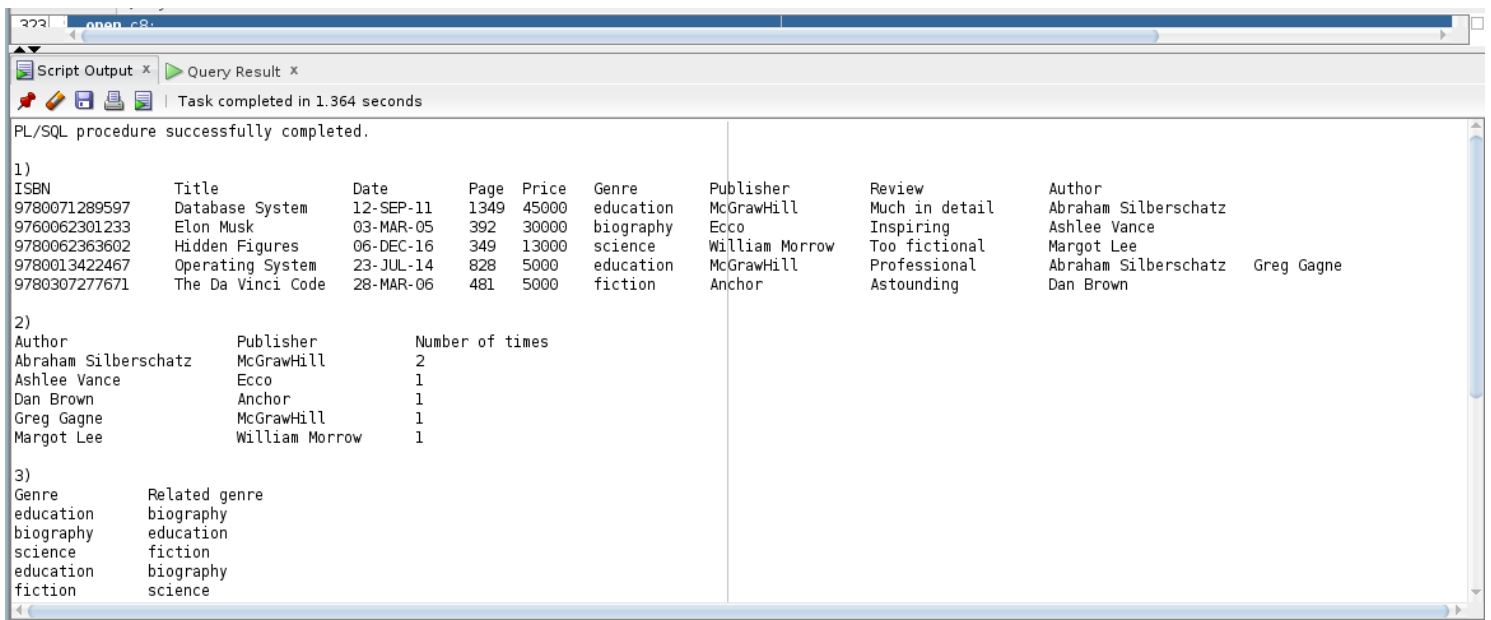customer_id is a super key; thus lossless join and dependency preservation are possible.
review (<u>customer_id, ISBN</u>, review, rev_date, rev_point);
customer_id and isbn is a super key; thus lossless join and dependency preservation are possible.
book_order (<u>customer_id</u>, ISBN, <u>order_date</u>);
customer_id and order_date are both super key; thus lossless join and dependency preservation are possible.

4. The following 2 snapshots are the query results:

```
323    open c8:

Script Output ×   Query Result ×
                  | Task completed in 1.364 seconds
PL/SQL procedure successfully completed.

1)
ISBN            Title            Date        Page  Price  Genre       Publisher       Review          Author
9780071289597   Database System  12-SEP-11   1349  45000  education   McGrawHill      Much in detail  Abraham Silberschatz
9760062301233   Elon Musk        03-MAR-05   392   30000  biography   Ecco            Inspiring       Ashlee Vance
9780062363602   Hidden Figures   06-DEC-16   349   13000  science     William Morrow  Too fictional   Margot Lee
9780013422467   Operating System 23-JUL-14   828   5000   education   McGrawHill      Professional    Abraham Silberschatz   Greg Gagne
9780307277671   The Da Vinci Code 28-MAR-06  481   5000   fiction     Anchor          Astounding      Dan Brown


2)
Author                  Publisher        Number of times
Abraham Silberschatz    McGrawHill       2
Ashlee Vance            Ecco             1
Dan Brown               Anchor           1
Greg Gagne              McGrawHill       1
Margot Lee              William Morrow   1


3)
Genre         Related genre
education     biography
biography     education
science       fiction
education     biography
fiction       science
```

🔖 ✏ 💾 🖨 📄 | Task completed in 1.364 seconds

```
3)
Genre           Related genre
education       biography
biography       education
science         fiction
education       biography
fiction         science

4)
Customer name        Order genre     Related genre   Recommended books
Calista Wise         science         fiction         The Da Vinci Code
Cecilia Chapman      biography       education        Database System      Operating System
Celeste Slater       education       biography        Elon Musk
Iris Watson          education       biography        Elon Musk
Theodore Lowe        fiction         science          Hidden Figures

5)
Customer name        Review               Total point
Calista Wise         Too fictional        1
Cecilia Chapman      Inspiring            5
Celeste Slater       Much in detail       2
Iris Watson          Professional         3
Theodore Lowe        Astounding           4
```

(PS: all the code is in Book.sql file)