Database Management Systems
Assignment 2
SQL

Question 1

A publisher, named Jimmy, wants to create a Chinese book-rating website. And he has done some related surveys and collected data on readers of various books form douban website. The follows is the schema:

- $Book(bID, bname, year, author)$
- $Reviewer(rID, rname)$
- $Rating(rID, bID, stars, rDate)$
  $stars$ is an integer (1-5).

bID	$bname$	$year$	$author$
1001	Journey to the West	1925	Chengen Wu
1002	Wolf Totem	2004	Rong Jiang
1003	Fortress Besieged	1945	Zhongshu Qian
1004	Langya List	2014	Yan Hai
1005	Historical Records	2004	Sima Qian
1006	Ordinary World	1989	Yao Lu
1007	Frontier City	2005	Congwen Shen
1008	The Legend of Chu Liu Xiang	1967	Long Gu

Table 1: Book

Q1: Find all years that have a book that got a rating of 2 or 3, and sort them in decreasing order.
Q2: Find the names of all reviewers who have ratings with a NULL value for the date.
Q3: For all cases where the same reviewer rated the same books twice and gave it a higher rating the second time, return the reviewer's name and the name of the book.
Q4: List book names and average ratings, from highest-rated to lowest-rated. If two or more books have the same average rating, list them in alphabetical order.
Q5: Find the names of all reviewers who have contributed three or more ratings.
Q6: Write a query to return the ratings data in a more readable format: reviewer name, book name, stars, and rating Date. Also, sort the data, first by reviewer name, then by book name, and lastly by number of stars.

rID	*rname*
3001	Leonard
3002	Oscar
3003	Spike
3004	Jason
3005	Ivan
3006	Albert
3007	Carl
3008	Henry

Table 2: Reviewer

rID	*bID*	*stars*	*rDate*
3001	1001	2	2015-05-17
3001	1001	4	2015-05-03
3002	1006	4	*null*
3003	1003	2	2015-05-19
3003	1008	4	2015-05-22
3003	1008	2	2015-05-06
3004	1001	3	2015-05-11
3005	1003	3	2015-05-09
3005	1004	2	2015-05-16
3005	1008	4	*null*
3006	1007	3	2015-05-24
3006	1006	5	2015-05-31
3007	1007	5	2015-05-12
3008	1004	3	2015-05-08

Table 3: Rating

Q7: For each book that has at least one rating, find the highest number of stars that book received. Return the book name and number of stars. Sort by book name.
Q8: For each book, return the name and the 'rating spread', that is, the difference between highest and lowest ratings given to that book. Sort by rating spread from highest to lowest, then by book name.