Worksheet – 06 Relational Algebra

Show schema for your database that you have so far. Indicate relationships, and foreign keys using the "arrow" notation from the book

Specify the following queries in relational algebra.

1. Find all of the books by Pratchett that cost less than $10

   $\sigma_{(Author='Terry\ Pratchett\ AND\ Price<10)}(Book \bowtie_{(Author\_id=Id)} Author)$

2. Give all of the titles and dates for purchases made by a particular customer.

   $Ordr \leftarrow \rho_{(Ordr(Book\_id,\ Order\_id,\ Date))}(\pi_{(Book\_id,\ Order\_id,\ Date\_created)}(Order))$

   $\pi_{(Title,\ Date)}(\sigma_{(Author='Terry\ Pratchett\ AND\ Price<10)}(Book \bowtie_{(Id=Book\_id)} OrderItem \bowtie_{(Order\_id=Id)} Ordr \bowtie_{(User\_id=Id)} User))$

3. List all of the books with less than 5 quantity in stock.

   $\sigma_{(Quantity<5)}(Book \bowtie_{(Id=Book\_id)} Inventory)$