**SQL Tests**

The data consists of six tables:

* metadata: product data for each book in the dataset
* sales: sales for an online retail platform in the month of February
* glance\_views: page views for an online retail platform in the month of February
* sales\_rank: scraped data from an online retail platform in the month of Feburary
* asin\_lookup: a mapping from product keys in the metadata table to online retail platform IDs used by the sales\_rank data
* price\_changes: a list of price changes made for books in the dataset in the month of February

### Questions

1. Select sales data for the 15th February for all titles where the division is Penguin Press
   * The output columns should be activity\_day, isbn, product\_title, division, imprint, and ordered\_units
2. Print the daily revenue for each product, where revenue is unit price \* ordered\_units
   * The output columns should be activity\_day, isbn, ordered\_units, price, and revenue
3. Select sales data for the 15th February for all titles where the division is Penguin Press, and add the sales\_rank column from the sales\_rank table
   * The output columns should be activity\_day, isbn, product\_title, division, imprint, ordered\_units, and sales\_rank
4. Summarize each division's sales over the month of February, sorting from most to least sales
   * The output columns should be division and total\_ordered\_units
5. List the top five most common categories appearing in the sales\_rank data, along with the number of times they appear, and their mean sales rank
   * The output columns should be category, category\_count for the number of occurrences of the category, and avg\_sales\_rank for the mean sales rank
   * Mean sales rank should be rounded down and cast to an integer
   * Categories with the same rank should be ordered by ascending average sales rank
6. Select the isbn, product\_title and mean sales\_rank for each product
   * The output columns should be isbn, product\_title and avg\_sales\_rank for the mean sales rank
7. For each ISBN, find the day with the greatest increase in ordered\_units over the previous day
   * The output columns should be activity\_day, isbn, and the difference in ordered\_units as units\_diff
8. For ISBN 9781364764951, compute a running total of sales over the month and the mean average sales over the previous seven days
   * The output columns should be activity\_day, isbn, product\_title, ordered\_units, running\_total and mean\_sales
9. In every instance where a title's sales rank is above the 90th percentile for that day, select the product information, sales rank, and ordered units
   * The output columns should be activity\_day, isbn, product\_title, sales\_rank, and ordered\_units
   * The output should be ordered by activity\_day
10. The price\_changes table contains a listing of price changes made to each of the products in the metadata t able. Calculate sales before and after the change\_date in the price\_changes table, showing the difference in sales, and the percentage change.
    * The output columns should be product\_id, bef\_sales for sales up to and including the change\_date, aft\_sales for sales after the change\_date, diff for the difference in sales, and pct for the percentage change between bef\_sales and aft\_sales