

Directions: Use subqueries and joins. Deciding which columns you will need for each query will be your choice. For example, in questions that ask to return customers, I used customer ID and a concatenation of their first and last names. Of course, if the question involves location, you will need to use the `zip` as well. A basic syntax template that you can use for inner joins is provided below. A `WHERE` clause that specifies a condition may sometimes be needed and follows the `ON`.

```
SELECT      Table1.column1, Table2.column2
FROM        Table1 INNER JOIN Table2
ON          Table1.somecol = Table2.samecol;
```

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1. Get a (distinct) list of all products (i.e., just the `product_id`) that have been purchased. Hint: no subquery or join needed. You will use your answer to this question in the next problem.
 2. Get a (distinct) list of all the names of products that have been purchased. Hint: use a subquery.
 3. Repeat Problem 2. using an inner join instead. This serves as evidence, and a reminder, that many subqueries can be written as joins and many joins can be written as subqueries. However, JOINS are typically preferred.
 4. List all orders (i.e., the order number) and the associated products (i.e., product name) purchased. Note: if asked for order number and product number (instead of product name), it would be unnecessary to join tables since the product id is contained within the order details table. Hint: Join `OrderDetails` and `Products` on product id number.
 5. Determine the total of the order, the most expensive product purchased, the least expensive product purchased, and the number of items purchased in order 1. Use MSRP in these calculations. Hints: use an inner join and four aggregate functions.
 6. Determine (list) the the average item's MSRP from each order. Sort largest to smallest. Hint: use an inner join and an aggregate function.
 7. Use inner joins to yield the following results:
 - (a). product name and manufacture name
 - (b). product name and category name

- (c). product manufacturer and category name
8. List order information (order number, product and quantity) and customer information (name, phone, and zip) of customers with zip codes from 4xxxxx (i.e., from any zip code that begins with a 4).
 9. Use a left outer join to get all customers that have not placed an order. Use the `Customer.id` and `Order.customer` fields to join ON.
 10. List order information of all customers from West Virginia. Hint: join four tables and use a subquery or (inner) join five tables using no subqueries.