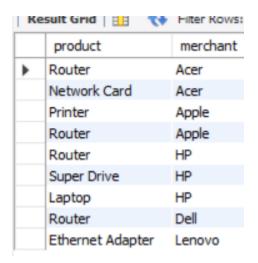
## Title Page

Title: DB Assignment 2Your Name: Kenny Chau

• Date: 10/11/2024

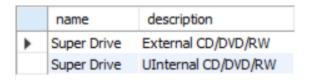
Query 1: List names and sellers of products that are no longer available (quantity=0)

Query lists names and sellers of the products. It does this by join the two tables products, merchants, and sell together and uses the where to filter out products with a quantity of 0.



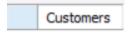
Query 2: List names and descriptions of products that are not sold.

Query list the names of products and descriptions not sold by left joining the products and sell table. Then using where clause to find where quantity available is null. This shows products not sold.



Query 3: How many customers bought SATA drives but not any routers?

Query finds all customers who bought a SATA drive with the WITH clause, specifying product pid as 4 and 5 since those said they were SATA drives in the description. Then use except and do the same query but instead of product pid, use product name and filter out products with category "router".



Query 4: HP has a 20% sale on all its Networking products.

Query derives prices by multiplying all network products by 0.8 to represent 20% off. Use where clause to filter just HP products, with product pid = 3

|   | name             | OldPrice | NewPrice           |
|---|------------------|----------|--------------------|
| ١ | Network Card     | 1154.68  | 923.7440000000001  |
|   | Network Card     | 345.01   | 276.008            |
|   | Network Card     | 262.2    | 209.76             |
|   | Monitor          | 822.33   | 657.864            |
|   | Printer          | 358.01   | 286.408            |
|   | Ethernet Adapter | 1260.45  | 1008.3600000000001 |
|   | Desktop          | 1490.37  | 1192.296           |
|   | Router           | 205.56   | 164.448            |
|   | Router           | 1474.87  | 1179.896           |
|   | Router           | 552.02   | 441.616            |
|   | Super Drive      | 658.52   | 526.816            |
|   | Router           | 100.95   | 80.76              |
|   | Laptop           | 1209.59  | 967.672            |
|   | Laptop           | 585.27   | 468.216            |
|   | Printer          | 856.22   | 684.9760000000001  |
|   | Network Card     | 1179.01  | 943.2080000000001  |
|   | Hard Drive       | 939.55   | 751.64             |
|   | Printer          | 1408.8   | 1127.04            |
|   | Super Drive      | 280.91   | 224.72800000000004 |
|   | Super Drive      | 343.18   | 274.54400000000004 |
|   |                  |          |                    |

Query 5: What did Uriel Whitney order from Acer? (make sure to at least retrieve product names and prices).

Query list product names of prices and joins all tables. Then use where to specify customer id and merchant id as 1 as both are Uriel and Acer respectively.

|   | name        | price   |
|---|-------------|---------|
| • | Monitor     | 1435.38 |
|   | Router      | 521.07  |
|   | Router      | 1256.57 |
|   | Monitor     | 1103.47 |
|   | Super Drive | 356.13  |
|   | Printer     | 1345.37 |
|   | Super Drive | 671.75  |
|   | Super Drive | 1135.3  |
|   | Super Drive | 356.13  |
|   | Super Drive | 1015.95 |
|   | Network C   | 405.4   |
|   | Hard Drive  | 836.99  |
|   | Super Drive | 1124.26 |
|   | Network C   | 609.2   |
|   | Printer     | 1345.37 |
|   | Network C   | 405.4   |
|   | Super Drive | 671.75  |
|   | Super Drive | 1135.3  |
|   | Router      | 945.51  |
|   | Hard Drive  | 333.71  |
|   | 1           |         |

Query 6: List the annual total sales for each company (sort the results along the company and the year attributes).

Query uses the year function to categorize each sale by year and sum all sell prices to get sales each year. Group and order by company and year.

|   | name  | year | sales               |
|---|-------|------|---------------------|
| ١ | Acer  | 2011 | 152986.29999999993  |
|   | Acer  | 2016 | 60291.140000000014  |
|   | Acer  | 2017 | 176722.76999999987  |
|   | Acer  | 2018 | 262059.28999999998  |
|   | Acer  | 2019 | 208815.79999999993  |
|   | Acer  | 2020 | 182311.149999999994 |
|   | Apple | 2011 | 166822.90999999995  |
|   | Apple | 2016 | 64748.45999999995   |
|   | Apple | 2017 | 179560.78000000003  |
|   | Apple | 2018 | 300413.22999999986  |
|   | Apple | 2019 | 231573.17000000007  |
|   | Apple | 2020 | 216461.06000000006  |
|   | Dell  | 2011 | 181730.34999999998  |
|   | Dell  | 2016 | 71462.86999999998   |
|   | Dell  | 2017 | 182288.60999999996  |
|   | Dell  | 2018 | 315004.82           |
|   | Dell  | 2019 | 221391.82999999975  |
|   | Dell  | 2020 | 208063.07999999987  |
|   | HP    | 2011 | 141030.1499999999   |
|   | HP    | 2016 | 56986.12000000002   |

Query 7: Which company had the highest annual revenue and in what year?

Query uses the year function to categorize each sale by year and sum all sell prices to get sales each year. Group and order by company and year. Use the limit function to output only 1 result from descending order, thus getting the top answer.

|   | name   | year | sales              |
|---|--------|------|--------------------|
| • | Lenovo | 2018 | 324291.59000000067 |

Query 8: On average, what was the cheapest shipping method used ever?

Query the shipping method and find the avg of shipping cost. Group it by shipping method and in a query update. Use a subquery with having to filter out each group and get the lowest average shipping cost.

|   | shipping_method | avg(orders.shipping_cost) |
|---|-----------------|---------------------------|
| • | USPS            | 7.455760869565214         |

Query 9: What is the best sold (\$) category for each company?

Create a temporary table that creates the total sales of each company with each category. Afterwards, use that temporary table and get the max of each row. Finally, join the category table and total spent table and find where the max sales of each company with its respective category. List out the name, category, and total sales.

|   | MerchantName | category   | TotalSales        |
|---|--------------|------------|-------------------|
| • | Acer         | Peripheral | 648729.5700000011 |
|   | Apple        | Peripheral | 613620.9500000009 |
|   | Dell         | Peripheral | 593504.3799999994 |
|   | Lenovo       | Peripheral | 608137.2700000023 |
|   | HP           | Networking | 417320.0000000019 |

Query 10: For each company find out which customers have spent the most and the least amounts.

Create a temporary table and find how much each person spent at each company. Then create two separate tables, one is for finding the max and one finding the min. You do this by taking the temporary table and using the where clause to find the max or min and linking which max and min by its merchant name. Union both of these tables to get both max and min spenders of each company.

|   | merchant_name | spender           | spent              |
|---|---------------|-------------------|--------------------|
| ١ | Lenovo        | Haviva Stewart    | 83030.25999999997  |
|   | Apple         | Clementine Travis | 84551.10999999997  |
|   | HP            | Clementine Travis | 66628.05999999995  |
|   | Dell          | Clementine Travis | 85611.54999999999  |
|   | Acer          | Dean Heath        | 75230.28999999998  |
|   | Acer          | Inez Long         | 31901.019999999993 |
|   | Apple         | Inez Long         | 32251.099999999988 |
|   | HP            | Inez Long         | 26062.89           |
|   | Dell          | Inez Long         | 31135.74000000001  |
|   | Lenovo        | Inez Long         | 33948.909999999996 |
|   |               |                   |                    |