Directions:

* Follow all formatting guidelines discussed in class and in the SQL handout
* Use the my\_guitar\_shop database
* All of the questions should be solved with data from only one table
* You will need to submit two documents:
  + This document
    - For any SQL statements, take screenshots of your code and paste the screenshot following the respective question
  + The SQL answer sheet
    - All of your SQL statements should follow the respective question number in the answer sheet
    - All SQL statements should be terminated with a semicolon
    - If I load the file into MySQL, I should be able to run the entire script at once with no modifications. If I have to make any changes in order for this to happen, points will be deducted.

1. Write the SQL statement that will list customer’s first and last names as well as their email address for any customers that have an email address from gmail.

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1. Write a single SQL statement that will implement the following relational algebra statements.

|  |  |
| --- | --- |
| PRODUCT\_LOCATIONS(\*) | HIGH\_INV ⟵ σ(qty\_on\_hand < 2)(PRODUCT\_LOCATIONS) |
| PRODUCT\_LOCATIONS(prod\_id,wh\_id) | RESULT ⟵ π(prod\_id,wh\_id)( HIGH\_INV) |

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1. Write a single SQL statement that will implement the following relational algebra statements.

|  |  |
| --- | --- |
| WAREHOUSES(wh\_name, wh\_sq\_footage,increased\_sq\_footage) | RESULT ⟵ ρ(wh\_name, wh\_sq\_footage,increased\_sq\_footage)(π(wh\_name,wh\_sq\_footage,wh\_sq\_footage+5%)(WAREHOUSES)) |

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1. Write the SQL statement that will list the product ids and the total number of products in inventory across all warehouses. Only list the two products that have the highest number of products in inventory. Use appropriate names for each column. Ensure the product with the highest total is listed first, followed by the second highest total.

Doesn’t need to be distint

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1. Write the plain English for the following SQL statement:

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List all the unique customer ids that have made an order

1. Write the relational algebra statements for the following SELECT statement.

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|  |  |
| --- | --- |
| ORDERS(customer\_id,total\_orders) | RESULT1⟵ρ(customer\_id,total\_orders)(customer\_idℑCOUNT(\*)(ORDERS)) |
| ORDERS(customer\_id, total\_orders) | RESULT⟵ σ(total\_orders >2)(RESULT1) |

1. Write the SQL statement that will list the warehouse id and product id of any products whose quantity on hand is lower that the product's economic order quantity (eoq) at any warehouse.

Should be WHERE qty\_on\_hand < eoq

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