INFORMATION TECHNOLOGY

Introduction to SQL

AGGREGATE FUNCTIONS - GROUPING AND SUMMARIZING DATA

GROUP BY

- The GROUP BY clause groups the rows of a result set based on one or more columns or expressions.
- It is typically used in SELECT statements that include aggregate functions
- If you include aggregate functions in the SELECT clause, the aggregate is calculated for each set of values that result from the columns named in the GROUP BY clause
- If you include two or more columns or expressions in the GROUP BY clause, they form a hierarchy where each column or expression is subordinate to the previous one.

GROUP BY

SELECT City, COUNT(*) FROM Customers GROUP BY City

- The above query would return the number Customers in each city

GROUP BY

SELECT SUM(OrderTotal), OrderDate FROM Orders GROUP BY OrderDate

- The above query would return the total by order date of all of the orders

HAVING

- The HAVING clause specifies a search condition for a group or an aggregate.
- It filters groups whereas the WHERE clause filters individual records.
- The search condition specified in the HAVING clause is applied after the rows that satisfy the search condition in the WHERE clause are groupd.

HAVING

SELECT City, COUNT(*)
FROM Customers GROUP BY City
HAVING COUNT(*) > 2

- The above query would return the number of customers in each city, but will only include cities with more than 2 customers.

HAVING

```
SELECT SUM(OrderTotal), OrderDate
FROM Orders
GROUP BY OrderDate
HAVING SUM(OrderTotal) > 300
```

- The above query would return the order total for each order date but will only include dates that have order totals of more than 300 dollars.