Table of Contents

[SQL Data Types 1](#_Toc74942803)

[Business Logic Constraints 1](#_Toc74942804)

[TD/AC 1](#_Toc74942805)

# SQL Data Types

Category

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Name | Char(20) |

Product

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Price | Float |
| PID | Int |
| Name | Char(40) |

Manufacturer

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Name | Char(20) |

Special Savings Day

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Date | YYYY-MM-DD (date) |
| Discount | Float |

Sale

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Date | YYYY-MM-DD (date) |

Store

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Phone Number | String |
| Store Number | Integer |
| Street Address | String |

Store

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Population | Integer |
| City Name | Char(20) |
| State | Char(20) |
| Will’s Grand Store | Boolean |

User

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Username | Char(20) |
| Password | Char(20) |

Sale to Product Relationship

|  |  |
| --- | --- |
| **Attribute** | **Data Type** |
| Quantity | Integer |

# Business Logic Constraints

Price cannot be negative.

Population cannot be negative.

All required fields (no NULL).

Every user must be registered.

Special day has calculation priority over discount.

# 

# TD/AC

Report 4 – Store Revenue by Year by State

Task Decomposition

* Lookup all states through store locations
* Lookup store ID, city name, store address grouped by sales year
* Lookup quantity, price, and discounts based on products sold with a store ID grouped by year
* Calculate total revenue
* Display store ID, city name, store address, sales year, total revenue
* Consistency is important
* Read-only
* They must be done in a specific order
* Same frequency
* Multiple schema constructs needed
* Subtasks needed
* Mother task is needed

Diagram

Description automatically generated

Abstract Code

**Report 4** (Form)

**Lookup states using dropdown. *Select State.*** (Button)

**Lookup store ID, city name, store address, grouped by Sales Year** using *state* (Task)

**Lookup quantity, price, and discounts based on products sold grouped by year** with*store ID*

**Calculate total revenue** (Task)

**Display store ID, city name, store address, sales year, total revenue** (Task)

***Back to Dashboard*** (Button)

Report 5 – Outdoor Furniture on Groundhog Day?

Task Decomposition

* Lookup year, and sum of the quantity of sales grouped by year
* Calculate daily average of quantity sold per year
* Lookup quantity sold on Feb 2nd grouped by year
* Display year, average quantity sold, and quantity sold on Feb 2nd, sorted by year in ascending order
* Consistency is important
* Read-only
* They must be done in a specific order
* Same frequency
* Single schema constructs needed
* Subtasks needed
* Mother task is needed

Diagram

Description automatically generated

Abstract Code

**Report 5** (Form)

**Lookup year, and sum of the quantity of sales grouped by year** (Task)

**Calculate daily average of quantity sold per year** (Task)

**Lookup quantity sold on Feb 2nd grouped by year** (Task)

**Display year, average quantity sold, and quantity sold on Feb 2nd, sorted by year in ascending order** (Task)

***Back to Dashboard*** (Button)