Fruit Stand
Database Project
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Database Project Specifications

Relationships

Relationship	Entity 1	Entity 2	Connectivity	Strength
Fruit has Inventory	Fruits	Inventory	1:N	Strong
Inventory is Sold	Inventory	Sales	1:N	Strong
Inventory has Usage Log	Inventory	Fruit_Usage_Log	1:N	Strong
Supplier offers Prices	Suppliers	Supplier_Prices	1:N	Strong
Supplier delivers Fruits	Suppliers	Deliveries	1:N	Strong
Fruit has Pricing	Fruits	Supplier_Prices	1:N	Strong
Fruit is Delivered	Fruits	Deliveries	1:N	Strong

Relationship Participation

The requirements for each Fruit is as follows:

- Each fruit optional have an inventory, but can have as many inventories as needed
- Each fruit mandatory to have at least one supplier price, but there can be many different prices for each fruit
- Each fruit optional to be delivered, but it can be delivered as many times as needed

The requirements for each Inventory is as follows:

- Each inventory is optional to be sold, but can be sold many different times until it is empty.
- Each inventory is optional to have a usage log, but can have as many usage logs as needed until the inventory is empty
- Each inventory mandatory to have one fruit, but can only have one fruit

The requirements for each Supplier is as follows:

- Each supplier mandatory to offer a price, but can offer as many prices as desired
- Each supplier mandatory to deliver a fruit, but can deliver many different fruits

The requirements for each Supplier Price is as follows:

- Each supplier price mandatory to have a supplier and can only have one supplier
- Each supplier price mandatory to have one fruit, but can only have one fruit

The requirements for each Delivery is as follows:

- Each delivery mandatory to have one fruit but can only have one fruit
- Each delivery mandatory to have one supplier but can only have one supplier

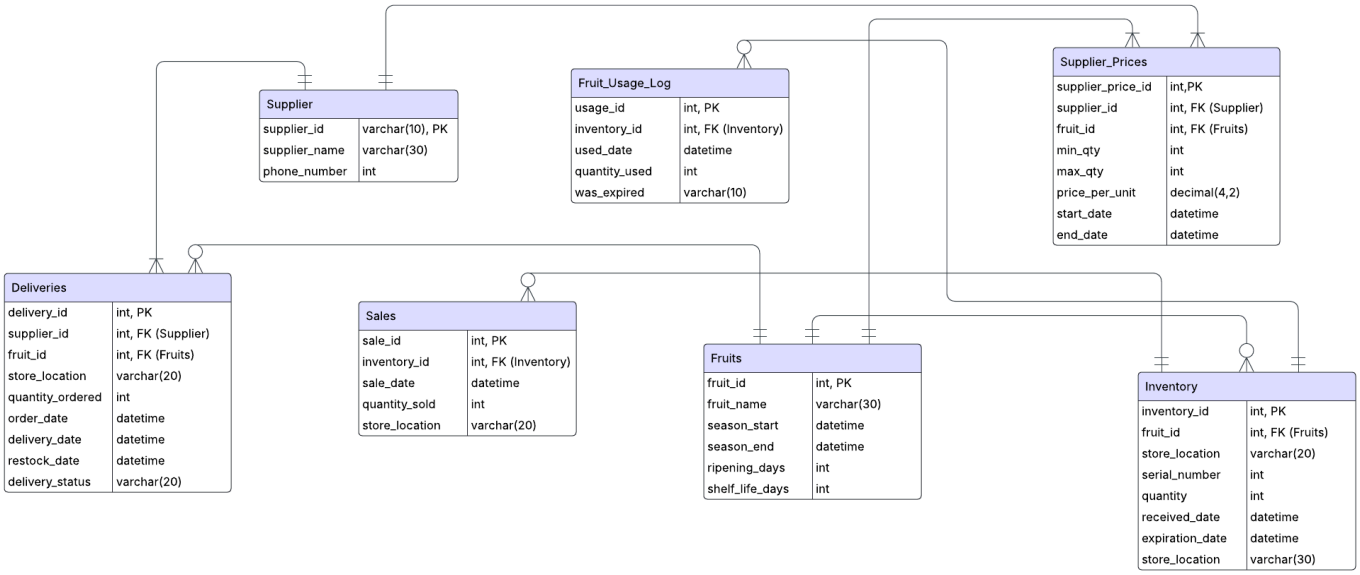
The requirements for each Sale is as follows:

- Each sale mandatory to have one inventory but can only have one inventory

The requirements for each Fruit Usage Log is as follows:

- Each fruit usage log mandatory to have one inventory but can only have one inventory

ERD



Tables in 3NF

- **Fruits**
  - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (fruit_id) that determines each attribute, and no partial or transitive dependencies
- **Inventory**
  - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (inventory_id) that determines each attribute, and no partial or transitive dependencies. fruit_id is a simple foreign key but is still determined by the inventory_id.
- **Sales**
  - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (sale_id) that determines each attribute, and no partial or transitive dependencies. inventory_id is a simple foreign key but is still determined by the sale_id.
- **Suppliers**
  - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (supplier_id) that determines each attribute, and no partial or transitive dependencies.

- **Supplier_Prices**
    - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (supplier_price_id) that determines each attribute, and no partial or transitive dependencies. fruit_id is a simple foreign key but is still determined by the supplier_price_id. supplier_id is also a simple foreign key but is still determined by the supplier_price_id.
- **Deliveries**
    - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (delivery_id) that determines each attribute, and no partial or transitive dependencies. fruit_id is a simple foreign key but is still determined by the supplier_price_id. supplier_id is also a simple foreign key but is still determined by the supplier_price_id.

- **Fruit_Usage_Log**
    - This entity is 3NF because there are no repeating groups, all atomic attributes, one primary key (usage_id) that determines each attribute, and no partial or transitive dependencies. inventory _id is a foreign key but is still determined by the usage_id.