

Relational Model

Customers (CustomerID: Integer, CustomerName: String, CustomerPhone: String, CustomerEmail: String)

Departments (DepartmentName: String)

Suppliers (SupplierID: Integer, SupplierName: String (NOT NULL), SupplierAddress: String, SupplierPhone: String (NOT NULL))

Employees (EmployeeID: Integer, EmployeeName: String (NOT NULL), **DepartmentName**: String, Position: String, SINumber: Integer (NOT NULL), EmployeeAddress: String, EmployeePhone: String, Wage: Integer)

Products (ProductID: Integer, ProductName: String (NOT NULL), PricePerCostUnit: Double (NOT NULL), CostUnit: String (NOT NULL), **DepartmentName**: String (NOT NULL), QuantityInStock: Integer, Brand: String, ProductionDate: String, BestBeforeDate: String, PLU: Integer, UPC: Integer, Organic: Integer, Cut: String, Animal: String)

Aisles(AisleNumber: Integer, AisleName: String (NOT NULL))

AisleContains(**AisleNumber**: Integer, **ProductID**: Integer)

ProvidedBy(**SupplierID**: Integer, **ProductID**: Integer)

ProvidesDelivery(**DeliveryID**: Integer, **SupplierID**: Integer (NOT NULL))

ReceivedFrom(**ProductID**: Integer, **DeliveryID**: Integer)

Purchases(TransactionID: Integer, **ProductID**: Integer, Quantity: Integer (NOT NULL), **CustomerID**: Integer (NOT NULL), PurchaseDate: String (NOT NULL), Total: Double (NOT NULL))

Candidate Keys

Customers: CustomerID

Departments: DepartmentName

Suppliers: SupplierID

Employees: EmployeeID

Products: ProductID

Aisles: AisleNumber

AisleContains: AisleNumber, ProductID

ProvidedBy: SupplierID, ProductID

ProvidesDelivery: DeliveryID

ReceivedFrom: ProductID, DeliveryID:

Purchases: TransactionID

Functional Dependencies

Customers:

CustomerID -> CustomerName, CustomerPhone, CustomerEmail

Suppliers:

SupplierID -> SupplierName, SupplierAddress, SupplierPhone

Employees:

EmployeeID -> EmployeeName, DepartmentName, Position, SINumber,
EmployeeAddress, EmployeePhone, Wage

Products:

ProductID -> ProductName, PricePerCostUnit, CostUnit, DepartmentName,
QuantityInStock, Brand, ProductionDate, BestBeforeDate, PLU, UPC, Organic, Cut,
Animal

Aisles:

AisleNumber -> AisleName

Purchases:

TransactionID, ProductID -> Quantity, CustomerID, PurchaseDate, Total