**Optimized Logical Schema (Version 1.0)**

**Based on: Normalized Logical Schema Version 1**

**Normalize Lookup Data**

There is no need to normalize lookup data because every table that contains data to be looked up has unique ID attributes.

**De-Normalization**

De-normalization is not needed as there were no changes made to the logical schema during normalization.

**Optimized Logical Schema:**

Employee(EmplID, Name\*, Street, City, Zip, State, Department\*)

Department references Dempatment.Name

Department(Name, Manager\*)

Manager references Employee.EmpID

Order(OrderID, Manager\*, OrderDate\*, Vendor\*)

Vendor references Vendor.Name

OrderDetail(OrderID, ItemName, Quantity\*, TotalPrice\*)

OrderID references Order.OrderID

ItemName references Inventory.ItemName

Inventory(ItemName, VendorName, Price\*)

VendorName references Vendor.Name

Vendor(Name, Phone\*)