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Assignment 9.1

Business Rules and Assumptions:

Winery Operations & Products:

Bacchus Winery produces four types of wine:

* Merlot
* Cabernet
* Chablis
* Chardonnay
* The winery grows its own grapes, and Henry Doyle (Production Manager) is responsible for tracking grape harvesting and quality control.
* Grape Harvest System tracks:
* Grape Type (Merlot, Cabernet, Chablis, Chardonnay)
* Harvest Date
* Yield Quantity (tons)
* Quality Rating
* The winery maintains an inventory of harvested grapes, processed wine, and necessary supplies.

Employees & Departments:

* **Finance**: Janet Collins (Payroll & financial oversight)
* **Marketing**: Roz Murphy (Head), Bob Ulrich (Assistant)
* **Production**: Henry Doyle (Manages 20 production employees)
* **Distribution**: Maria Costanza (Manages shipments & logistics)
* Each employee belongs to one department only.
* Work hours are tracked for payroll and reporting.

Suppliers & Inventory:

* Three suppliers deliver monthly:
* **Supplier A**: Bottles and corks
* **Supplier B**: Labels and boxes
* **Supplier C**: Vats and tubing
* Inventory must be tracked to ensure sufficient supplies for production.
* Suppliers deliver monthly and are tracked for on-time delivery.
* Supplier performance is monitored, with reports tracking expected vs. actual delivery dates.

Wine Sales & Distribution:

* Distributors order wine online and track shipments.
* Wine sales are tracked by distributor and type, analyzing:
* Best-selling wines
* Top distributors
* Underperforming wines

Marketing & Distribution Coordination:

* Marketing (Roz & Bob) communicates with Distribution (Maria) to assess:
* Best-selling wines
* Underperforming wines
* Seasonal demand changes
* A Wine Sales Report is generated to compare sales trends and improve distributor targeting.

Market Research & Pricing Adjustments:

* Marketing gathers feedback from distributors to track customer preferences.
* Finance (Janet) works with Marketing to adjust pricing strategies based on demand and distributor trends.

ERD Components:

Entities:

* Employee
* Department
* Wine
* GrapeHarvest
* Supplier
* SupplyOrder
* Distributor
* WineDistribution
* Order
* Delivery
* SalesReport

Attributes:

Employee:

* EmployeeID
* Name
* DepartmentID
* HoursWorked
* Position

Department:

* DepartmentID
* Name

Wine:

* WineID
* WineType
* SalesVolume
* InventoryQuantity

GrapeHarvest:

* HarvestID
* GrapeType
* HarvestDate
* YieldQuantity
* QualityRating

Supplier:

* SupplierID
* Name
* ComponentType
* ContactInfo

SupplyOrder:

* OrderID
* SupplierID
* OrderDate
* ExpectedDelivery
* ActualDelivery
* Status

Distributor:

* DistributorID
* Name
* ContactInfo
* Region

WineDistribution:

* DistributionID
* WineID
* DistributorID
* Quantity
* DateShipped

Order:

* OrderID
* DistributorID
* OrderDate
* ShipDate
* Status

Delivery:

* DeliveryID
* OrderID
* ExpectedDate
* ActualDate
* Status

SalesReport:

* ReportID
* WineID
* DistributorID
* SalesVolume
* Date