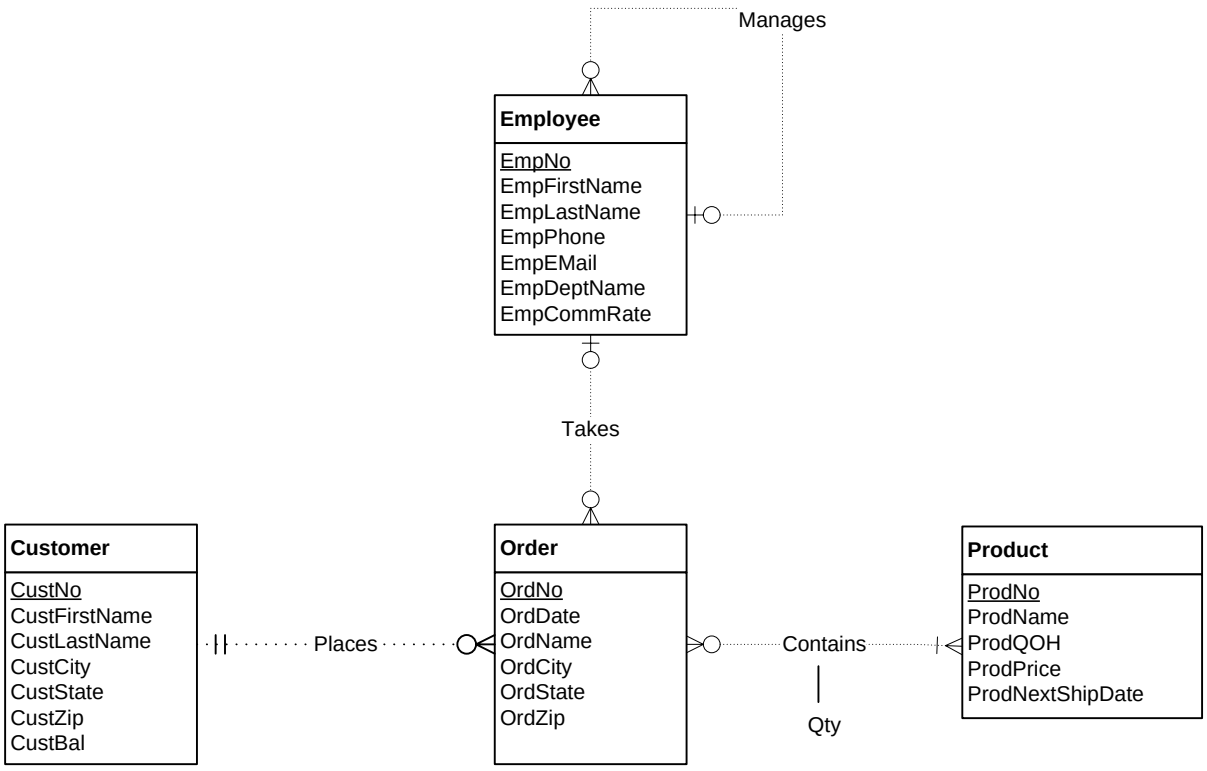
Answers of Exercise Problems for Module 10

Ans 1 –



After Conversion:

Customer(PK(CustNo), CustFirstName, CustLastName, CustCity, CustState, CustZip, CustBal)
Order(PK(OrdNo), OrdDate, OrdName, OrdCity, OrdCity, OrdState, OrdZip)

Employee(PK(EmpNo), SupEmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, EmpDeptName, EmpCommRate, FOREIGN KEY(SupEmpNo) REFERENCES Employee)

Product(PK(ProdNo), ProdName, ProdQOH, ProdPrice, ProdNextShipDate)

FOREIGN KEY(CustNo) REFERENCES Customer

FOREIGN KEY(EmpNo) REFERENCES Employee

CustNo NOT NULL

Contains(*OrdNo*, *ProdNo*, Qty)

FOREIGN KEY(OrdNo) REFERENCES Order

FOREIGN KEY(ProdNo) REFERENCES Product

Conversion Rules:

- Use the entity type rule to convert each entity type into the table.
- Use the 1-M relationship rule for all relationships except the *contains* relationship.
- Use the M-N rule to convert the *contains* relationship.

Ans 2-

After Conversion:

Customer(PK(CustNo), CustFirstName, CustLastName, CustCity, CustState, CustZip, CustBal)
Order(PK(OrdNo), OrdDate, OrdName, OrdCity, OrdCity, OrdState, OrdZip)

Employee(PK(EmpNo), SupEmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, EmpDeptName, EmpCommRate, FOREIGN KEY(SupEmpNo) REFERENCES Employee)

Product(PK(ProdNo), ProdName, ProdQOH, ProdPrice, ProdNextShipDate)

FOREIGN KEY(CustNo) REFERENCES Customer

FOREIGN KEY(EmpNo) REFERENCES Employee

CustNo NOT NULL

Contains(*OrdNo*, *ProdNo*, Qty)

FOREIGN KEY(OrdNo) REFERENCES Order

FOREIGN KEY(ProdNo) REFERENCES Product

Conversion Rules:

- Use the entity type rule to convert each entity type into the table.
- Use the 1-M relationship rule for all relationships except the *contains* relationship.
- Use the Identification Dependency rule to add two components (OrdNo and ProdNo) to the primary key of the OrderLine table.

Ans 3-

Building(PK(BldgId), BldgName, BldgLocation)

Room(PK(RoomNo), RoomCapacity)
FK(BldgId) REFRENCE FROM Building

Conversion Rules:

- Use the entity type rule to convert each entity type into the table.
- Use the 1-M relationship rule for all relationships except the *contains* relationship.
- Use the identification dependency rule to make BldgId a component of the PK of Room. The PK of the Room table is a combination of BldgId and RoomNo.
- In the final conversion result, a not null constraint is not needed for Room.BldgId because this column is part of the primary key of Room.