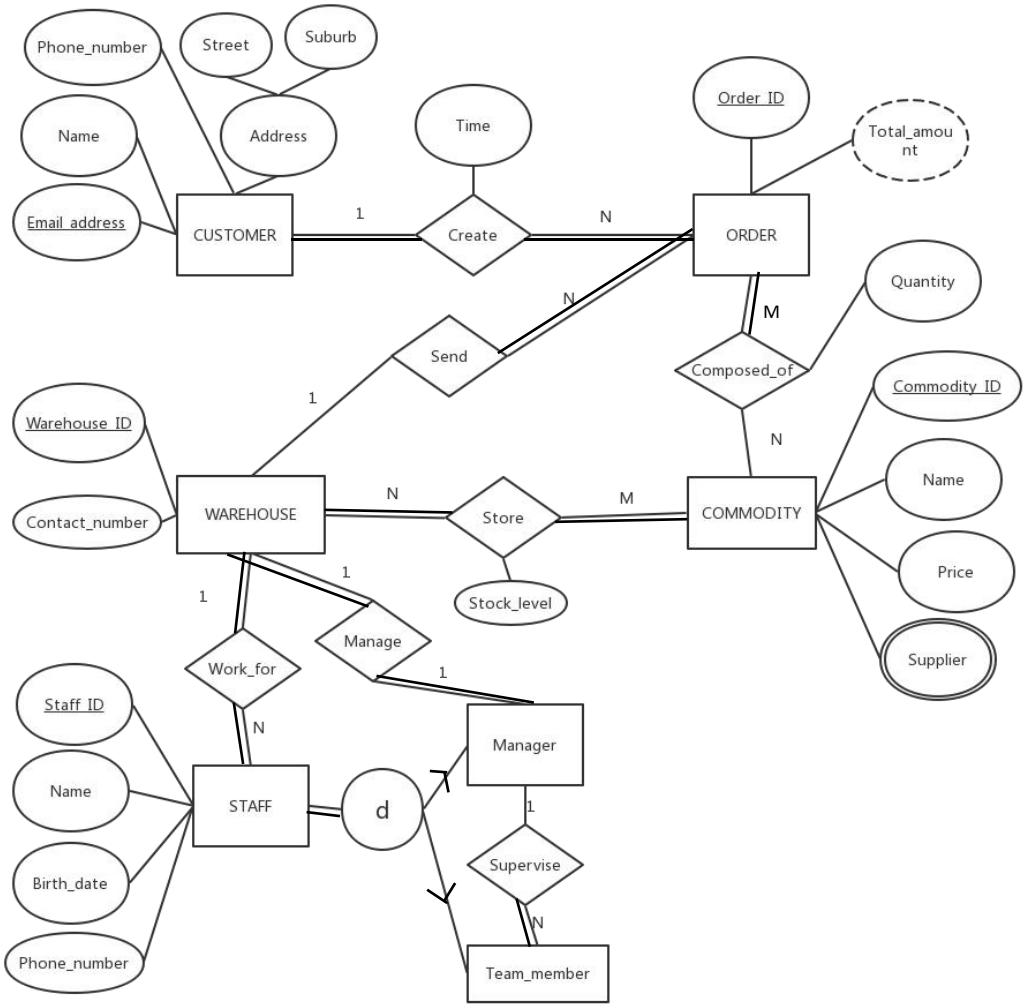
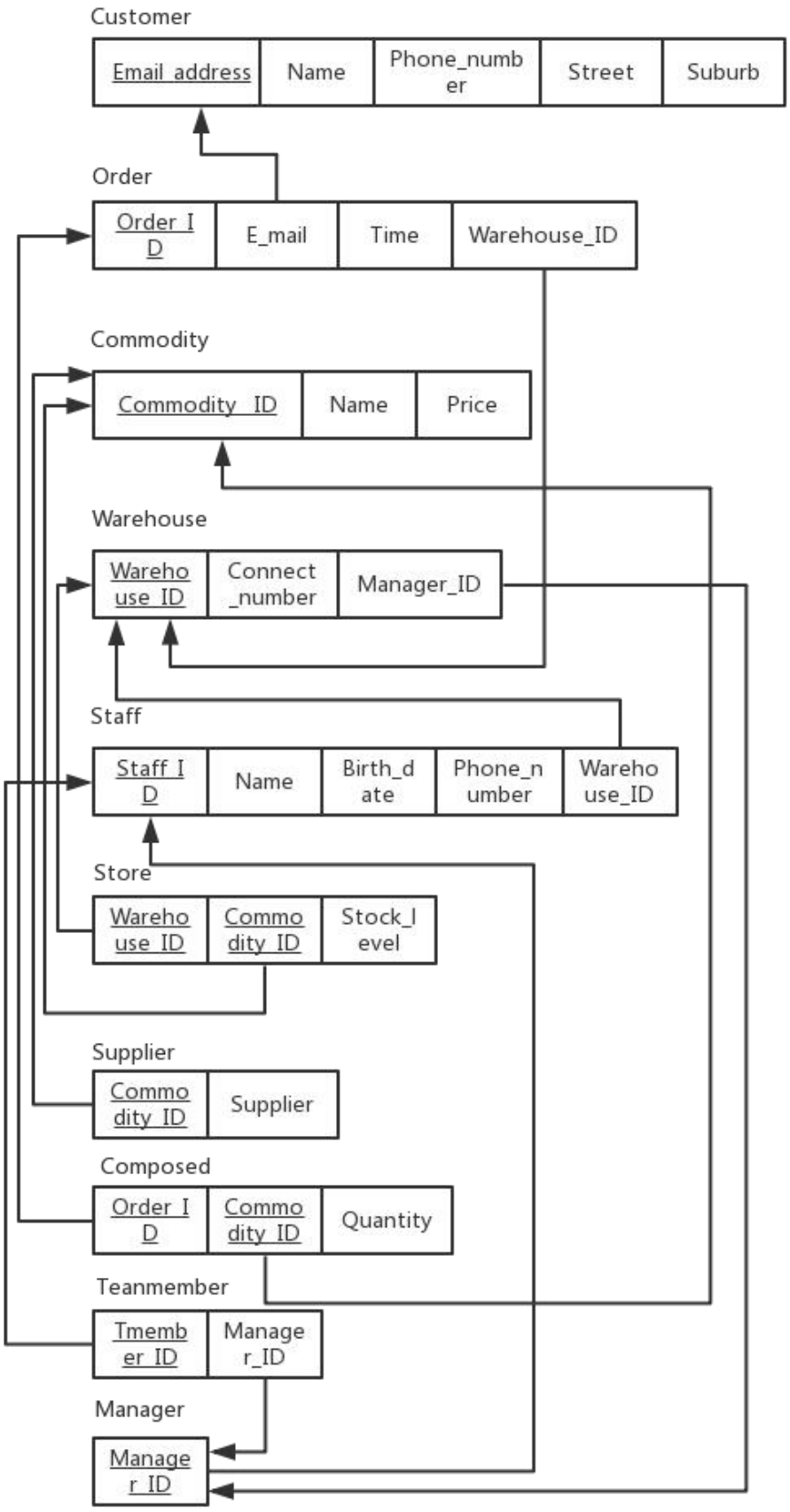
Z5141180
Yizheng Ying
27/3/2018




Customer
Email_address
Name
Phone_number
Street
Suburb
Order
Order_ID
E_mail
Time
Warehouse_ID
Commodity
Commodity_ID
Name
Price
Warehouse
Warehouse_ID
Connect_number
Manager_ID
Staff
Staff_ID
Name
Birth_date
Phone_number
Warehouse_ID
Store
Warehouse_ID
Commodity_ID
Stock_level
Supplier
Commodity_ID
Supplier
Composed
Order_ID
Commodity_ID
Quantity
Teanmember
Tmember_ID
Manager_ID
Manager
Manager_ID

(1)
Step by step:

$A \leftarrow \pi_{studentID}((\sigma_{job=designer}(JobRequirement)) \bowtie_{courseID=courseID} (Enrolment))$

$B \leftarrow \pi_{studentID}(Student)$

$\pi_{name}(\sigma_{gender=female}((B \cap A) \bowtie_{studentID=studentID} (Student)))$

Total:

$\pi_{name}(\sigma_{gender=female}((\pi_{studentID}(Student) \cap \pi_{studentID}((\sigma_{job=designer}(JobRequirement)) \bowtie_{courseID=courseID} (Enrolment))) \bowtie_{studentID=studentID} (Student)))$

Explanation:get data from JobRequirement where job=designer and join Enrolment by courseID=courseID ,select studentID from it as A and select studentID from Student as B then use intersection to get the unique studentID ,using (B ∩ A) join Student by studentID=studentID ,then get the data from it where gender=female and then select name.

(2)
Step by step:

$A \leftarrow \pi_{courseID}(\sigma_{job=designer}(JobRequirement))$

$B \leftarrow \pi_{studentID}(\sigma_{faculty=law}(Course) \bowtie_{courseID=courseID} (Enrolment))$

$\pi_{name}(((Enrolment \div A) - B) \bowtie_{studentID=studentID} (Student))$

Total:

$\pi_{name}(((Enrolment \div \pi_{courseID}(\sigma_{job=designer}(JobRequirement))) - \pi_{studentID}(\sigma_{faculty=law}(Course) \bowtie_{courseID=courseID} (Enrolment))) \bowtie_{studentID=studentID} (Student))$

(3)
Step by step:

$A \leftarrow \pi_{courseID}(\sigma_{gender=male}(Student) \bowtie_{studentID=studentID} (Enrolment))$

$B \leftarrow \pi_{courseID}(\sigma_{gender=female}(Student) \bowtie_{studentID=studentID} (Enrolment))$

$\pi_{courseName}((A-B) \cup (B-A) \bowtie_{courseID=courseID} (Course))$

Total:

$\pi_{courseName}($

$(\pi_{courseID}(\sigma_{gender=male}(Student) \bowtie_{studentID=studentID} (Enrolment)) - \pi_{courseID}(\sigma_{gender=female}(Student)$

$\bowtie_{studentID=studentID}(Enrolment))) \cup$

$(\pi_{courseID}(\sigma_{gender=female}(Student) \bowtie_{studentID=studentID}(Enrolment)) - \pi_{courseID}(\sigma_{gender=male}(Student)$

$\bowtie_{studentID=studentID}(Enrolment)))$

$) \bowtie_{courseID=courseID}(Course))$