

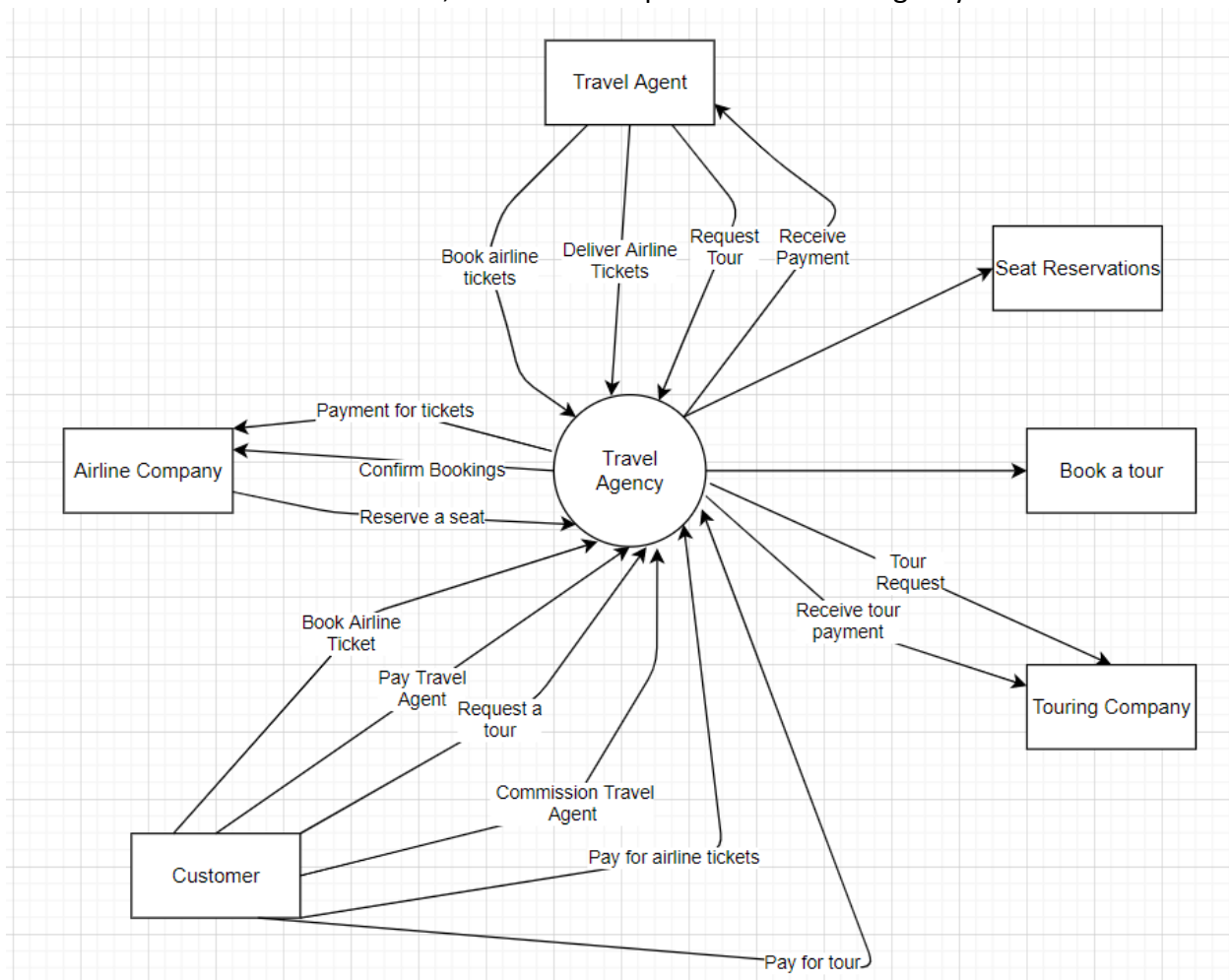
ITSC 3155, Midterm Exam

In the following questions, you are allowed to make assumptions and solve the problem, however, you need to explain why you made that assumption.

1. Given the following use case diagram,

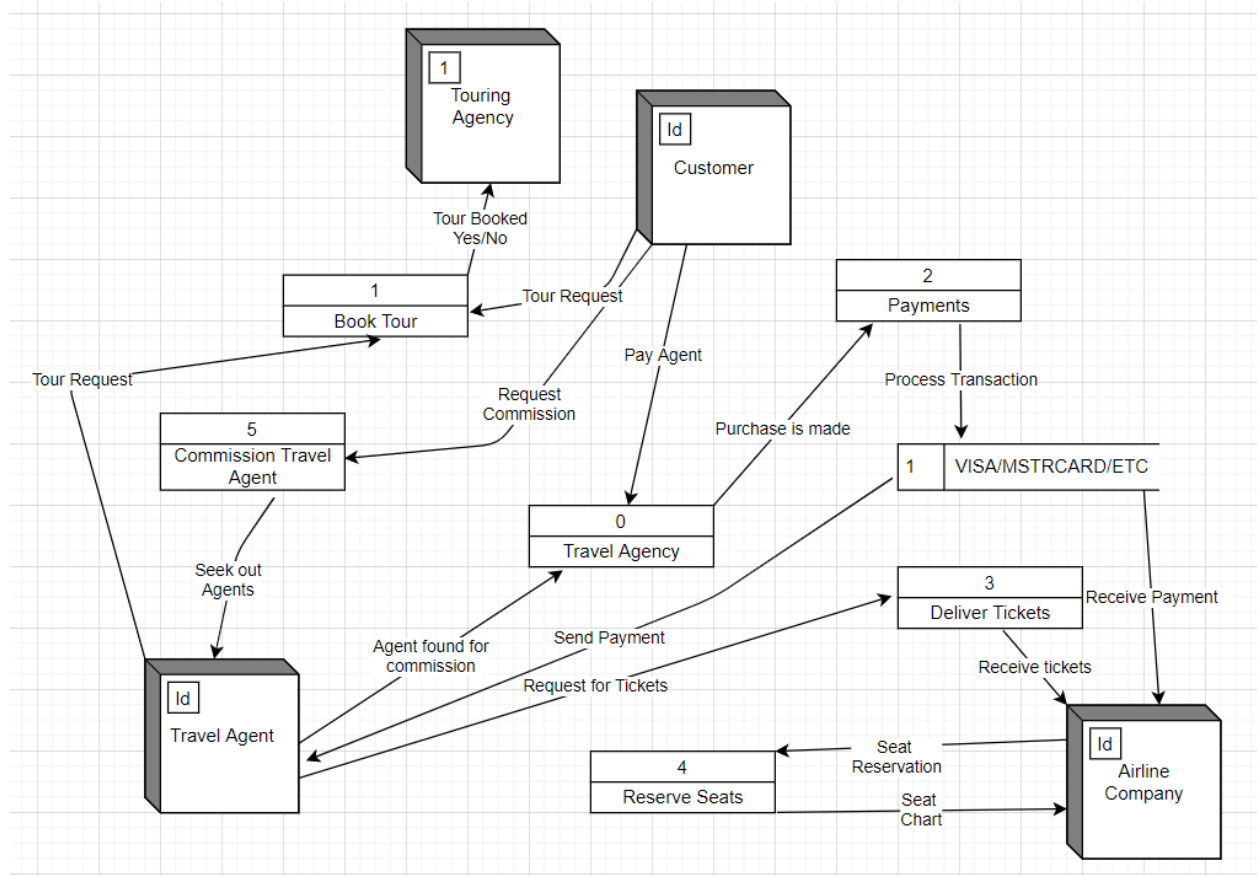
a. draw the context diagram (10 Points)

- Assumption #1: Airline Company needs to confirm the booking, otherwise what other role would they take in this process?
- Assumption #2: The customer/travel agent requests the tour and the touring company denies or accepts it; made assumption because I wasn't sure what other purpose they'd do in this system.
- Assumption #3: System keeps storage for tour bookings and seat reservations; it seems like a process the travel agency would do.



b. Data Flow Diagram of this system (15 Points)

- All assumptions of Part A
- Assumption #1: Send out commission messages to travel agents to make them aware of this position for commission.



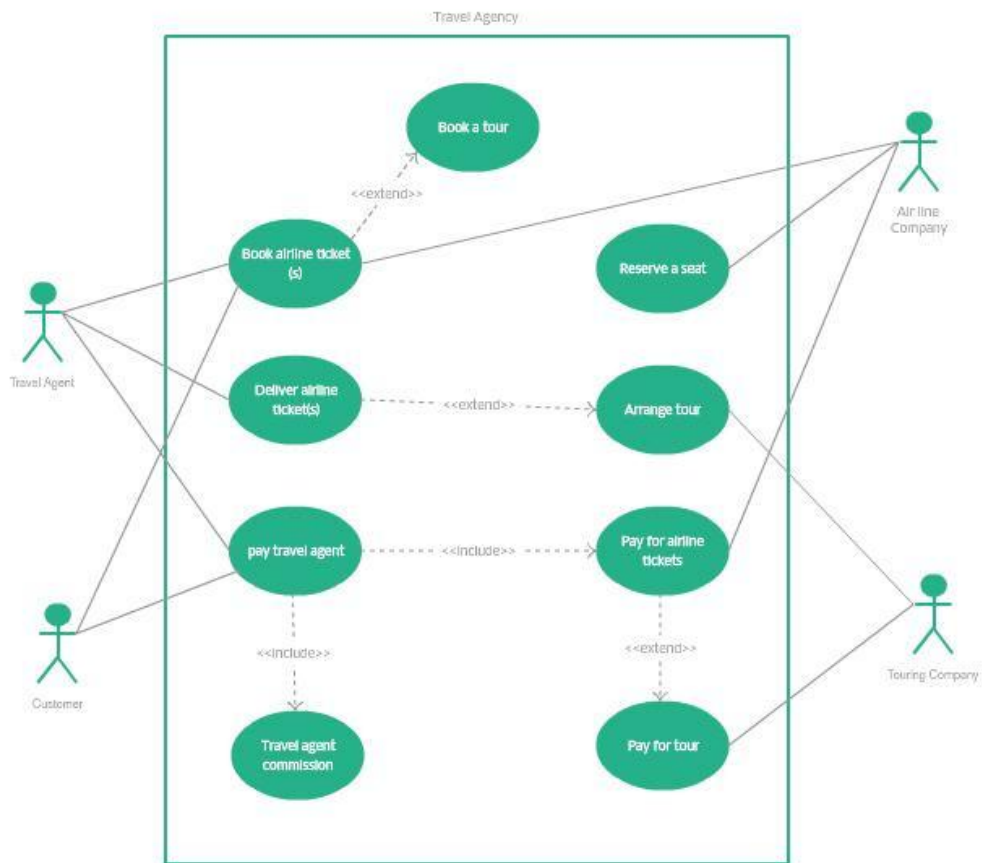
c. Pick two of the use cases and create System Analysis use case from them (20 points each for 40 points)

Use Case Name:	Book an airline ticket
Actor(s):	Customer, Travel Agent, Touring Company
Summary Description:	Customer has a seat reserved for them on an airline
Priority:	High
Status:	Medium Level of Detail
Pre-Condition:	S05: The customer decides on if they should hire a travel agent to do this for them S10: The customer decides to do the process themselves S15: The user books an airline ticket on the application

	S20: The airline company sees the booking and reserves a seat for the customer
Basic Path:	<ul style="list-style-type: none"> • “Customer” books airline ticket with “Airline Company” • “Airline Company” reserves the seat for “Customer”
Alternate-Path:	A01: @S05 The customer decides to hire a travel agent A01.05: The customer pays for a travel Agent with the app A01.10: The travel agent is Commissioned to work for the customer A01. A01.15: The traveling agent becomes The user to book the airline ticket A01.20: RESUME @S15
Post-Condition:	The customer has a reserved seat on the airline
Business Rules:	Seats are always available
Non-Functional Requirements:	N/A

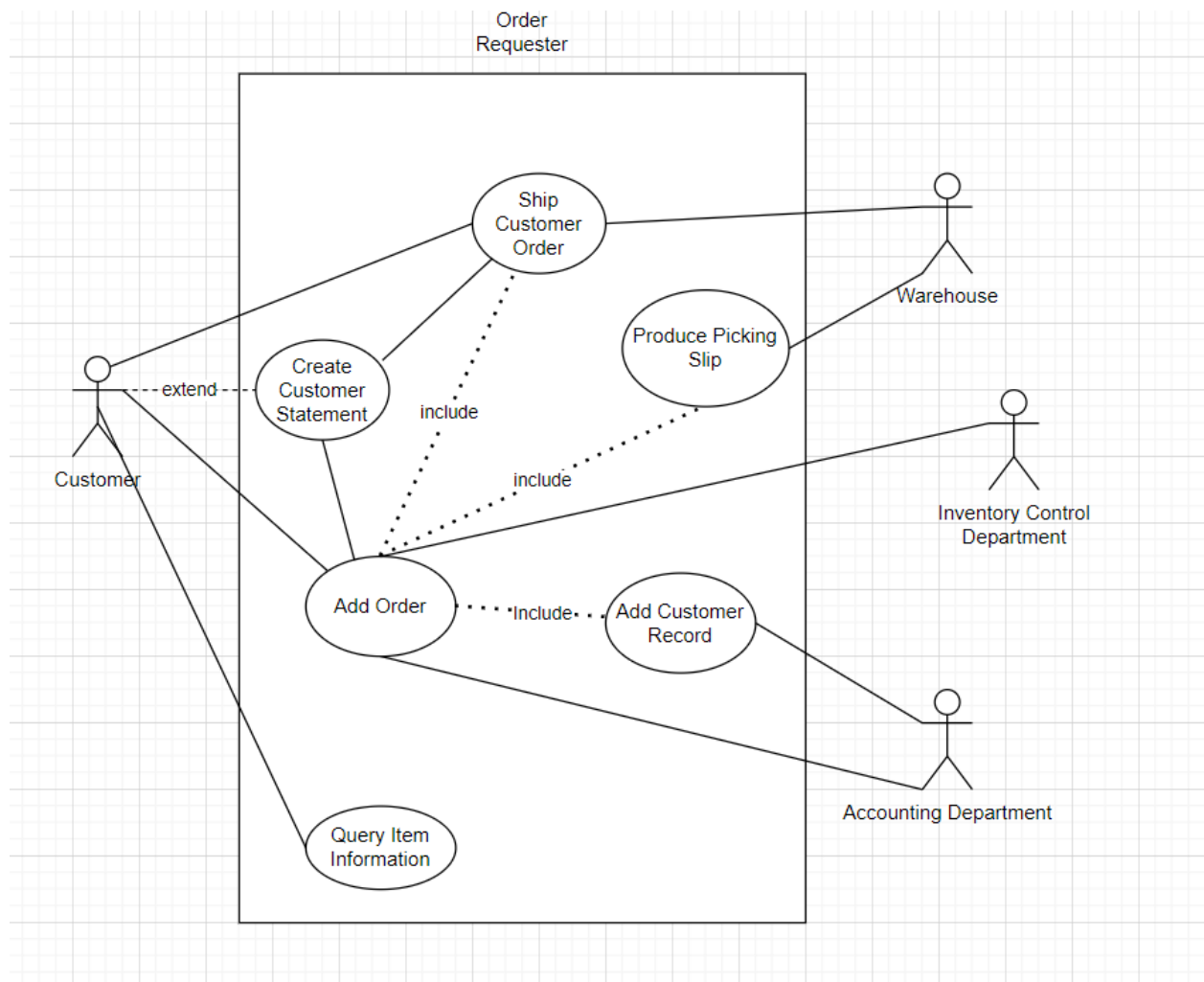
Use Case Name:	Arrange a tour
Actor(s):	Customer, Travel Agent, Touring Company
Summary Description:	Customer sets into motion a tour they want to go on
Priority:	Medium
Status:	Medium Level of Detail
Pre-Condition:	S05: The customer uses the travel agency application S10: The customer searches for a touring plan on the application S15: The customer clicks on the plan they want

	<p>S20: The customer is asked if they want to hire a traveling agent</p> <p>S25: A traveling agent is hired to manage the process</p> <p>S30: The traveling agent is commissioned into the process</p> <p>S35: The traveling agent delivers the airline tickets</p> <p>S40: The traveling agent decides if he should arrange a tour</p> <p>S45: The traveling agent says yes</p> <p>S50: The touring company receives confirmation that the customer is set to tour</p>
Basic Path:	<ul style="list-style-type: none"> • “Customer” pays “Travel Agent” • “Customer” commissions “Travel Agent” • “Travel Agent” delivers the airline tickets • “Travel Agent” arranges the tour with “Touring Company”
Alternate-Path:	<p>A01: @S20: The user says no</p> <p>A01.05: The user finds they can only pay for a tour, not arrange one.</p> <p>A01.10: The user decides to go back and check yes.</p> <p>A01.15: RESUME @S20</p> <p>A02: @S35: The traveling agent says no to arranging a tour</p> <p>A02.05: The traveling agent realizes he hasn’t fulfilled the user requirements</p> <p>A02.10: The traveling agent corrects this error</p> <p>A02.15: RESUME @S35</p>
Post-Condition	The customer is ready to ride the plane to the destination and go on their tour
Business Rules:	A tour can always be arranged
Non-Functional Requirements:	N/A



Online Travel Agency

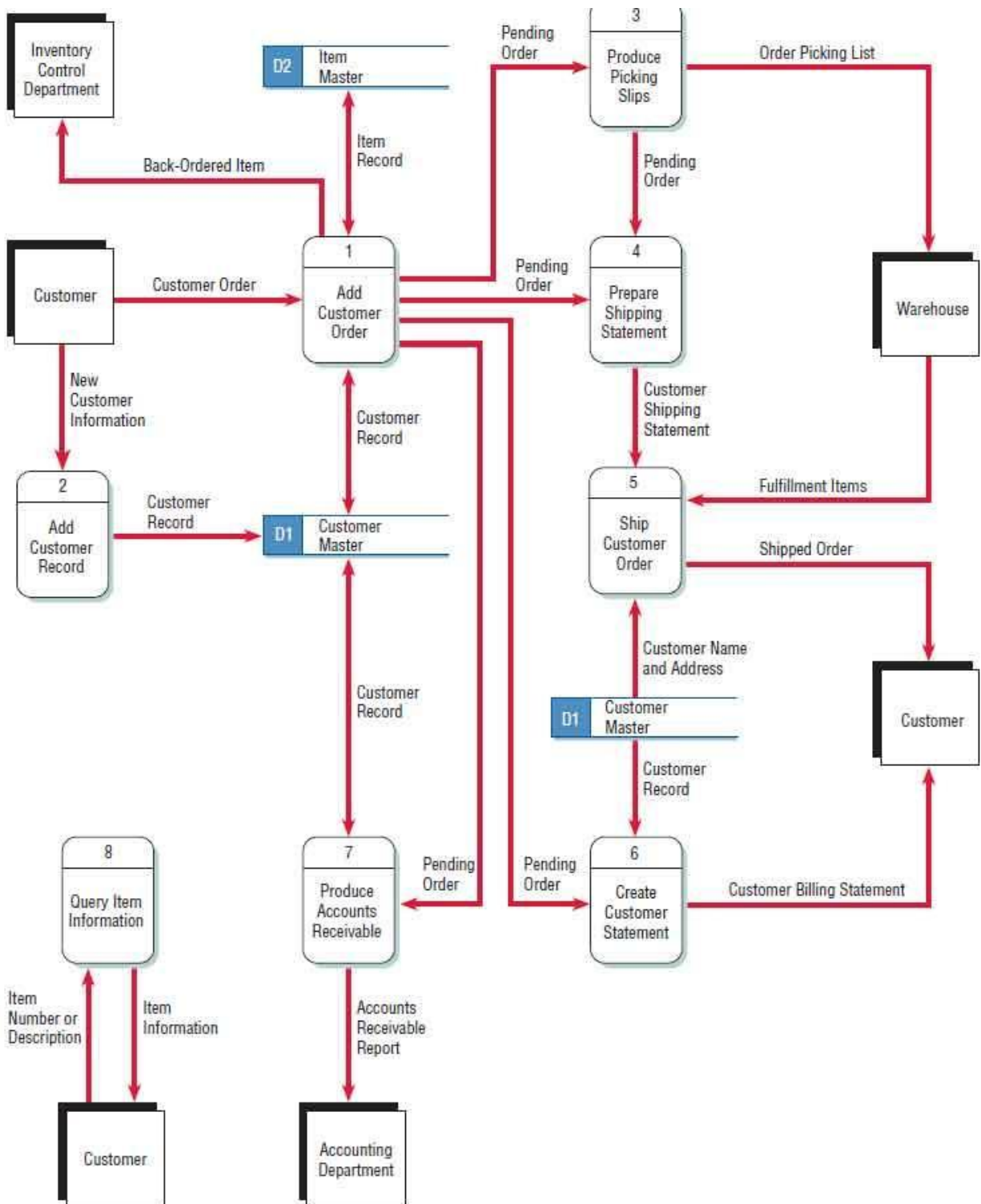
2. Given the following data flow diagram,
 - a. create a use case diagram for the system (20 points)
 - i. Assumption #1: Assumed customer statement is optional since this is how it is for most programs



- b. pick one of the use cases, and create a system analysis use case from it (15 points)

Use Case Name:	Customer Create Customer Statement
Actor(s):	Customer, Accounting Department, Inventory Control Department, Warehouse
Summary Description:	The customer is shipped their order and asked to review it
Priority:	Medium
Status:	Medium Level of Detail
Pre-Condition:	S05: Customer opens the order requester app S10: Customer adds their order S15: The order is taken by the accounting

	<p>department and added to the customer record</p> <p>S20: The inventory control department overlooks the information to see if it needs to be back ordered</p> <p>S25: A picking slip is produced and sent to the warehouse</p> <p>S30: The customer statement is created and shown as a pending order</p> <p>S35: The warehouse sends the item through the requester to get the item shipped</p> <p>S40: The added order is now being shipped to the customer</p> <p>S45: The customer statement is updated to show the order has been sent</p> <p>S50: The user is asked to give a review on their statement</p> <p>S55: The user declines</p>
Basic Path:	<ul style="list-style-type: none"> • “Customer” adds their order • “Accounting Department” has order added to customer record • “Inventory Control Department” overlooks the order to see if it’s back ordered • “Warehouse” has a picking slip sent to them • “Warehouse” ships the item to the “Customer” • “Customer” is asked for a review of the transaction
Alternate-Path:	<p>A01: @S50 The user gives a review</p> <p>A01.05: The review is added to the Created customer statement</p> <p>RESUME @Post-Condition</p>
Post-Condition	The user has given their review on the shipped product
Business Rules:	The warehouse always has the item
Non-Functional Requirements:	N/A



- Pick any of the above systems and design the Entity-Relationship Diagram (ERD) for that system based on the proposed data stores. Extra Credit (20 points).

