CS 3700 Final Project

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Part I. Project Definition and Data Modeling

Summary:

The N & N Christmas Tree Farm is a locally owned family business in Dayton, Ohio. They provide a variety of Christmas trees at multiple heights. This family business would like to have a database to display the types of trees they have. They want to be able to see the type of tree, the price of the tree, and the height of the tree. Also, they want to know the city and state the tree came from. The business wants to keep track of what trees are in stock by using the database to monitor an inventory. The inventory should keep track of the quantities of each tree and the inventory price.

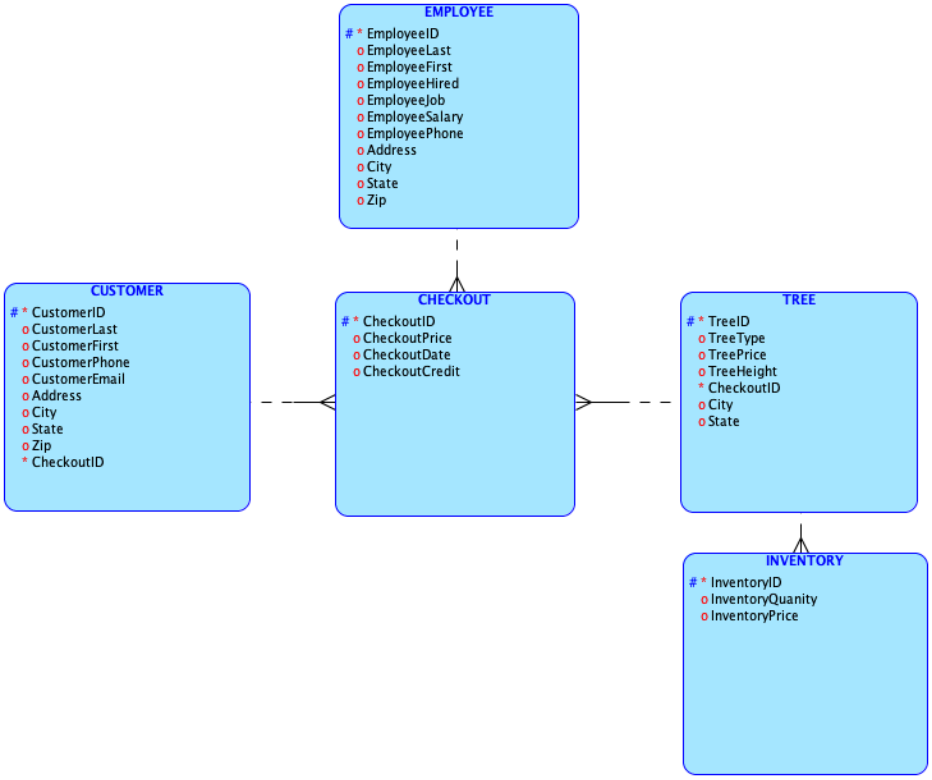
N & N wants the database to display each customer's information. It should store the customer's first name, last name, phone number, email, and address. To show what trees the customer has bought the database should track the checkouts that happen. The checkouts should store what the type of tress bought and the customers that bought them. It should display the price of the checkout paid by the customer and the date of the checkout. Finally, the checkout should display if the customer paid with a credit card. The last thing the database should monitor is the employee who checkout the customer. The database should display employee information including first name, last name, date hired, job position, salary, phone number, and address.

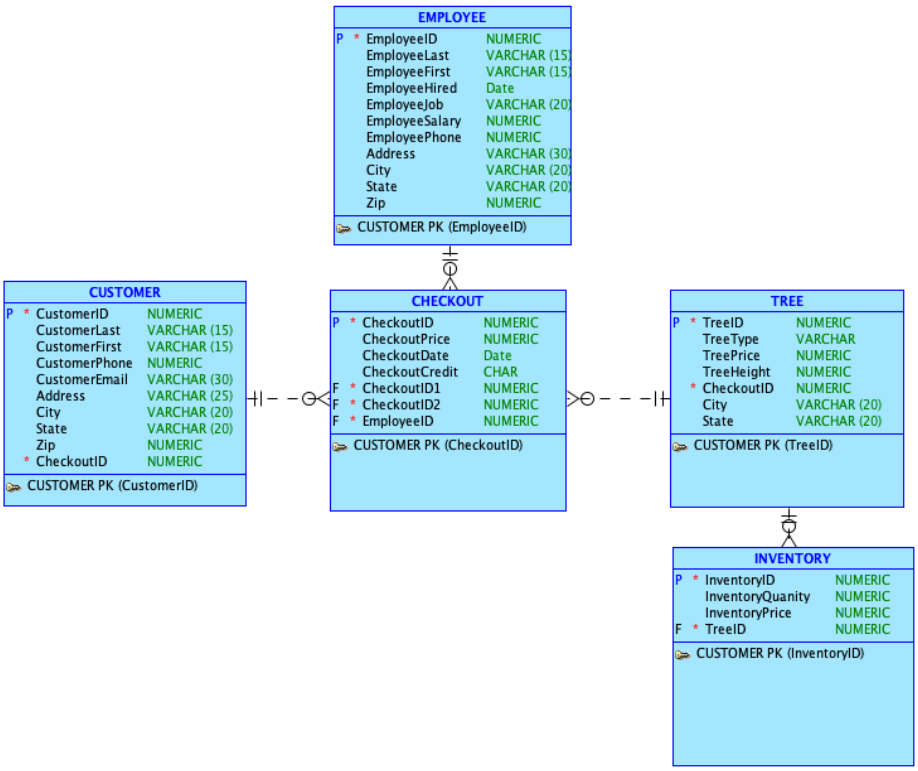
Logo:

Data Dictionary:

DATA DICTIONARY				
Description	**Table**	**Name**	**Datatype**	**Constraint**
customer ID	customer	cid	NUMBER	PK
customer last name	customer	clast	VARCHAR2	
customer first name	customer	cfirst	VARCHAR2	
customer phone number	customer	cphone	NUMBER	
customer email	customer	cemail	VARCAHR2	
customer street address	customer	cAddress	VARCHAR2	
customer city	customer	cCity	VARCHAR2	
customer state	customer	cState	VARCHAR2	
customer zip code	customer	cZip	NUMBER	
tree ID	tree	tid	NUMBER	PK
type of tree	tree	ttype	VARCHAR2	
price of tree	tree	tCost	NUMBER	
tree height	tree	theight	NUMBER	
city the tree was from	tree	tcity	VARCHAR2	
state the tree was from	tree	tstate	VARCHAR2	
transaction ID	checkout	chid	NUMBER	PK
total amount paid	checkout	chpaid	NUMBER	
date of transaction	checkout	chdate	DATE	
tree ID	checkout	tid	NUMBER	FK
customer ID	checkout	cid	NUMBER	FK
was credit card used	checkout	chCredit	CHAR	Check Condition
employee ID	checkout	eid	NUMBER	FK
employee ID	employee	eid	NUMBER	PK
employee last name	employee	elast	VARCHAR2	
employee first name	employee	efirst	VARCHAR2	
date hired	employee	ehired	DATE	
job position	employee	ejob	VARCHAR2	
employee salary	employee	esalary	NUMBER	
employee phone number	employee	ephone	NUMBER	
employee street address	employee	eaddress	VARCHAR2	
employee city	employee	ecity	VARCHAR2	
employee state	employee	estate	VARCHAR2	
employee zip	employee	ezip	NUMBER	
inventory ID	inventory	inventoryID	NUMBER	PK
inventory quanity	inventory	inventoryQuanity	NUMBER	
tree ID	inventory	tid	NUMBER	FK
inventory price	inventory	inventoryPrice	NUMBER	

ERD (Barker Notation and Engineering Notation):





Part II. Relational Schema

Normalized Relational Schema:

customer (**cid**, clast, cfirst, cphone, cemail, cAddress, cCity, cState, cZip)

tree (**tid**, ttype, tCost, theight, tcity, tstate)

employee (**eid**, elast, efirst, ehired, ejob, salary, ephone, eaddress, ecity, estate, ezip)

inventory (**inventoryID**, inventoryQuanity, inventoryPrice, *tid*)

checkout (**chid**, chpaid, chdate, chCredit, *eid, tid, cid*)

Note: chCreditCash is a check condition