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IT 440

Assignment 1 Business Rules

Assumptions:

Cars have an initial mileage, and customers are charged based on days rented, miles for each customers usage are tracked in their rental period.

Rules:  
Customers can rent many cars and cars can be rented by many different customers (M:M)

Cars must belong to only one subtype (van, compact, midsize, etc.)

Each branch may own many cars but a car must be owned by only one branch

Attributes:

Branch\_ID, branch\_name, Branch\_address, Branch\_City, Branch\_State, Branch\_zip, Car\_ID, Price\_per\_day, Initial\_Mileage, Make, Model, plate\_num Rental\_Mileage, Rental\_start, Rental\_end, Cust\_ID, Cust\_FName, Cust\_LName, Cust\_address, Cust\_City, Cust\_State, Cust\_Zip

UNF-> 1NF

Primary Key = Branch\_ID

1NF-> 2NF

Tables -> Branch, Car, Customer, Rental

Branch: Branch\_ID, Branch\_Name, Branch\_address, Branch\_city, Branch\_State, Branch\_Zip

Car: Car\_ID, Price\_Per\_Day, Initial\_Mileage, Make, Model, plate\_Num

Customer: Cust\_ID, Cust\_FName, Cust\_LName, Cust\_Address, Cust\_City, Cust\_State, Cust\_Zip

Rental (Bridge): Rental\_ID, Rental\_Milage, Rental\_start, Rental\_end

2NF->3NF

No Transitive dependancies

SQL Statement to determine total revenue of each branch:  
SELECT b.Branch\_ID, SUM((c.Price\_Per\_Day \*DATEDIFF("d", r.Start\_Date, r.End\_Date))) AS Branch\_Revenue

FROM (Car AS c

INNER JOIN Rental AS r

ON c.Car\_ID = r.Car\_ID)

INNER JOIN Branch AS b

ON b.Branch\_ID = r.Branch\_ID

GROUP BY b.Branch\_ID;