CS 443 Lab 7
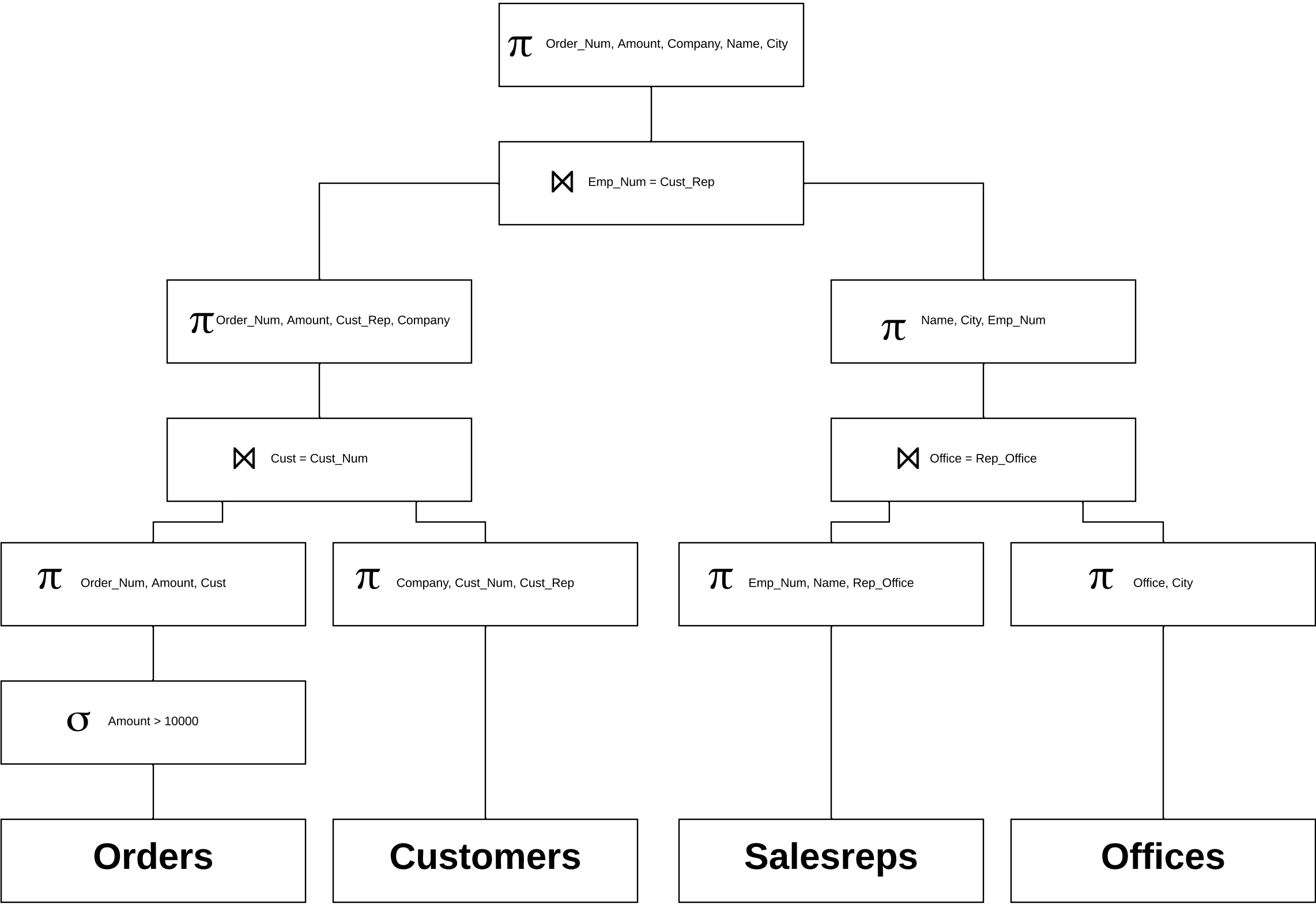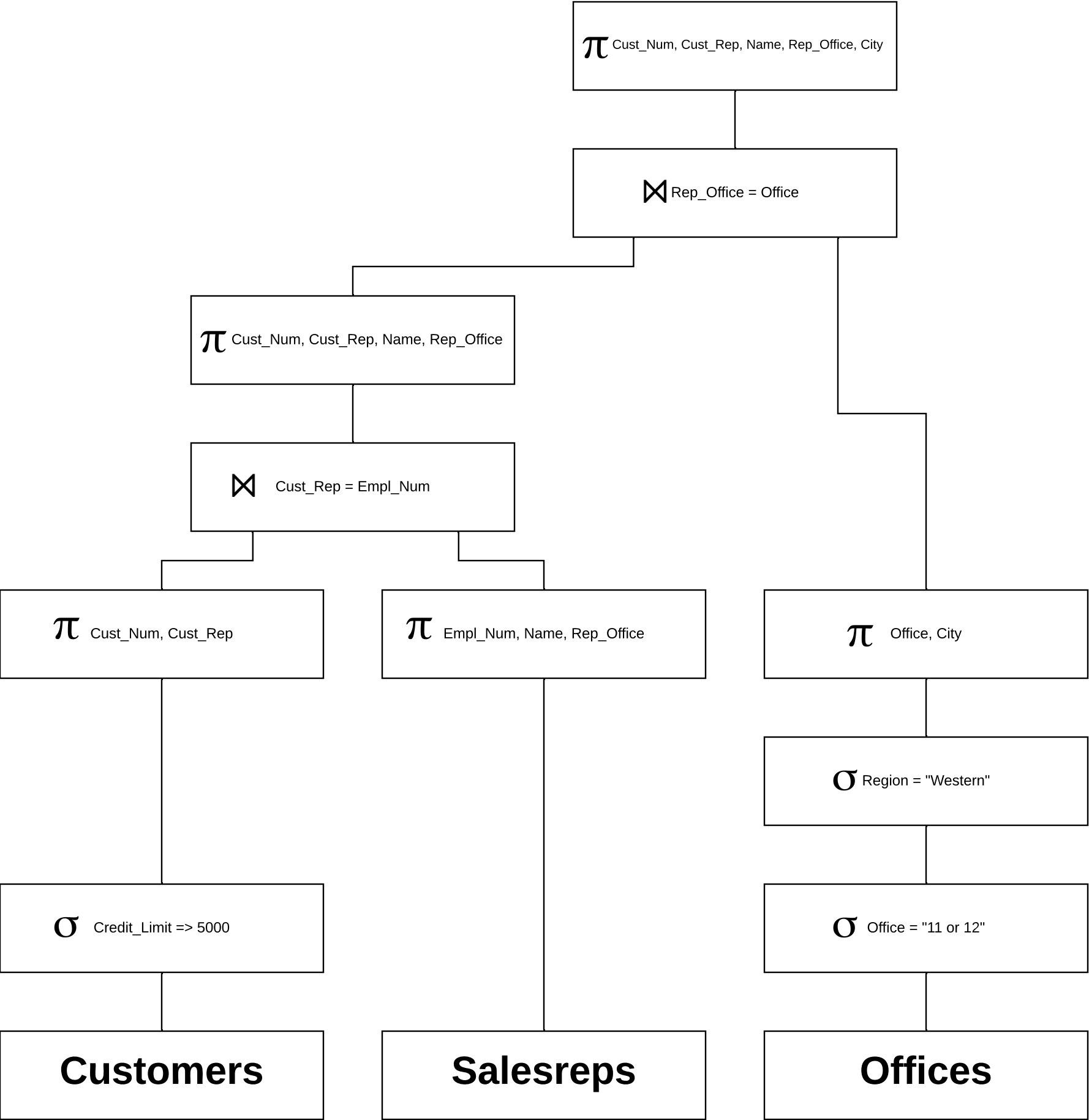## By Victor Nguyen

1) Use query tree to optimize the following query. Use the tables that was provided in previous Assignment
SELECT Order_Num, Amount, Company, Name, City
FROM Orders, Customers, Salesreps, Offices
WHERE Cust = Cust_Num AND Cust_Rep = Empl_Num AND Rep_Office = Office
AND Amount > 10000

2) Use query tree to optimize the following query. Use the tables that was provided in previous assignment

    SELECT cust_num, cust_rep, name, rep_office, city
    FROM Customers, Salesreps, Offices
    WHERE empl_num = cust_rep, and rep_office = officeAND credit_limit >= 5000 And region = "western" And office in (11, 12)

π Cust_Num, Cust_Rep, Name, Rep_Office, City

$\bowtie$ Rep_Office = Office

π Cust_Num, Cust_Rep, Name, Rep_Office

$\bowtie$ Cust_Rep = Empl_Num

π Cust_Num, Cust_Rep

π Empl_Num, Name, Rep_Office

π Office, City

σ Region = "Western"

σ Credit_Limit => 5000

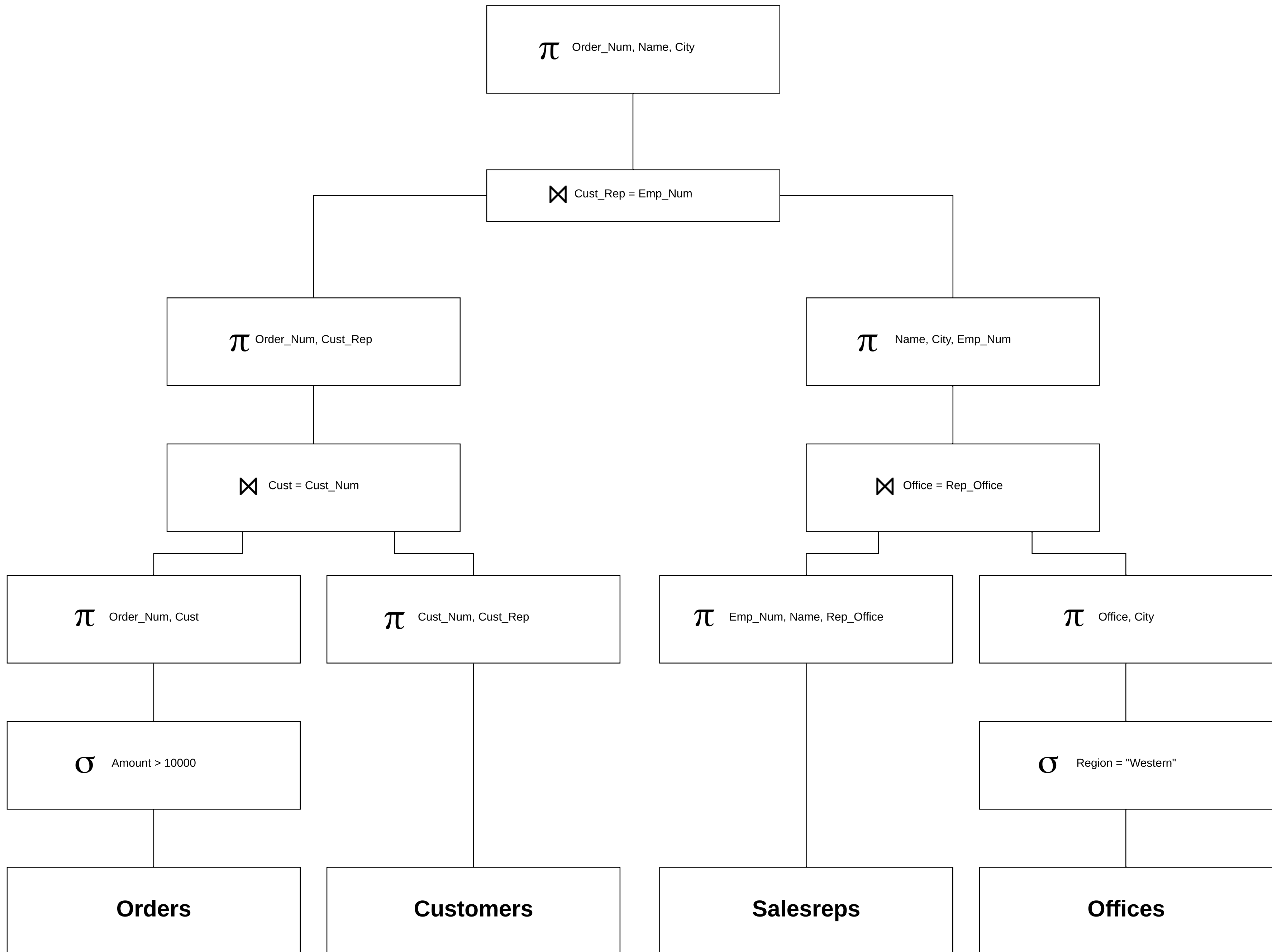σ Office = "11 or 12"

Customers

Salesreps

Offices

3) Use query tree to optimize the following query. Use the tables that was provided in previous assignment
SELECT Order_Num, Name, City
FROM Orders, Customers, Salesreps, Offices
WHERE Cust = Cust_NumAND Cust_Rep = Empl_Num AND Rep_Office = Office
AND Amount > 10000 AND region = "Western"

π Order_Num, Name, City

⋈ Cust_Rep = Emp_Num

π Order_Num, Cust_Rep

π Name, City, Emp_Num

⋈ Cust = Cust_Num

⋈ Office = Rep_Office

π Order_Num, Cust

π Cust_Num, Cust_Rep

π Emp_Num, Name, Rep_Office

π Office, City

σ Amount > 10000

σ Region = "Western"

Orders

Customers

Salesreps

Offices

4) Use query tree to optimize the following query. Use the tables that was provided in previous assignment
   SELECT order_num, mfr, product, cust_rep, price
   From orders, products
   Where price > 100 And Qty-On-hand > 3
   and mfr = mfr_id and product = product_id

π Order_Num, Mfr, Product, Cust_Rep, Price

$\bowtie$ Mfr = Mfr_id and Product = Product_id

π Order_Num, Mfr, Product, Cust_Rep

π Mfr_id, Product_id, Price

σ Qty-On-Hand > 3

σ Price > 100

Orders

Products