Quiz 8. Query optimization 1

Q1. True or false? If false, give a more optimized query plan.

The relational algebra tree presented below is the best possible tree for a given SQL query and **cannot be optimized** any further (True/False) _____
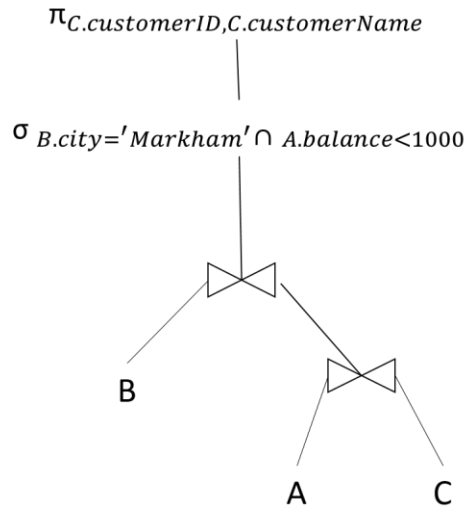
Query:

SELECT C.customerID, C.customerName

FROM Customers as C, Branches as B, Accounts as A

WHERE C.customerID = A.customerID **AND** B.branchID = A.branchID

AND B.city = 'Markham' **AND** A.balance < 1000

Final tree:

$\pi_{C.customerID, C.customerName}$

$\sigma_{B.city='Markham' \cap A.balance<1000}$

B

A   C

Q2. Given the following statistics, estimate the size of the output of: $\sigma_{c=20}$ (Y) ⋈ Z

Y (c,d)	Z (d,e)
T (Y) = 300	T (Z) = 400
V (Y, c) = 50	V (Z, d) = 40
V (Y, d) = 50	V (Z, e) = 100

The best order is: _____