

RELATIONAL ALGEBRA: EXAMPLES

CS 564- Fall 2018

ACKs: Dan Suciu, Jignesh Patel, AnHai Doan

EXAMPLE DB: SAILORS

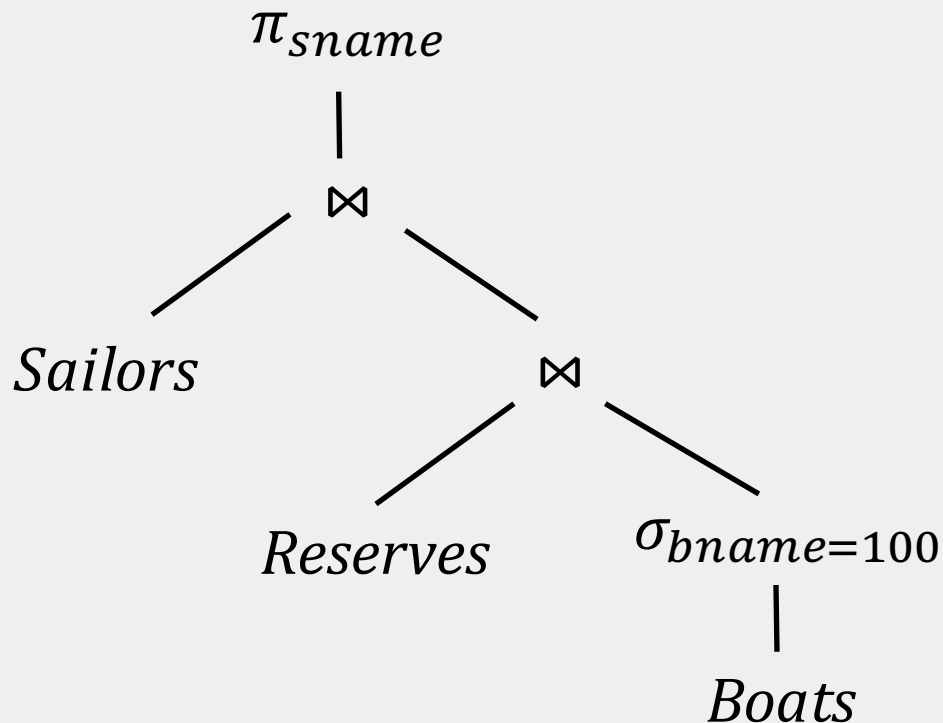
Sailors (sid, sname, rating, age)

Reserves (sid, bid, day)

Boats (bid, bname, color)

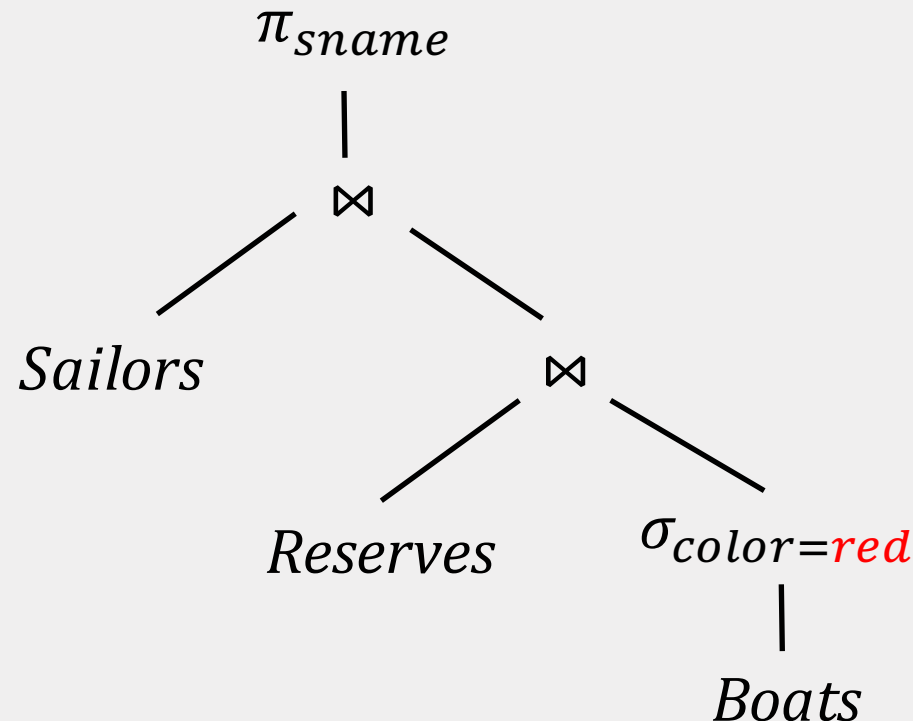
EXAMPLE DB: SAILORS

***Q1:** What are the names of the sailors who have reserved boat with name “100” ?*



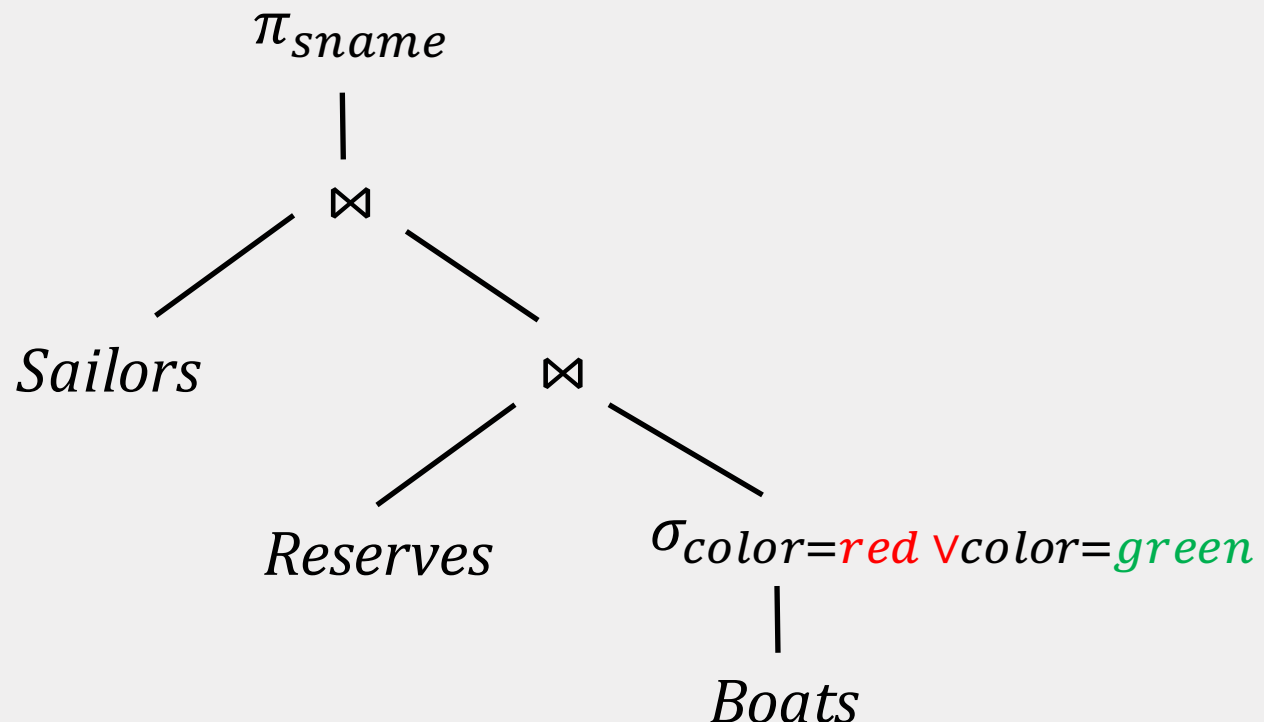
EXAMPLE DB: SAILORS

Q2: *What are the names of the sailors who have reserved a **red** boat?*



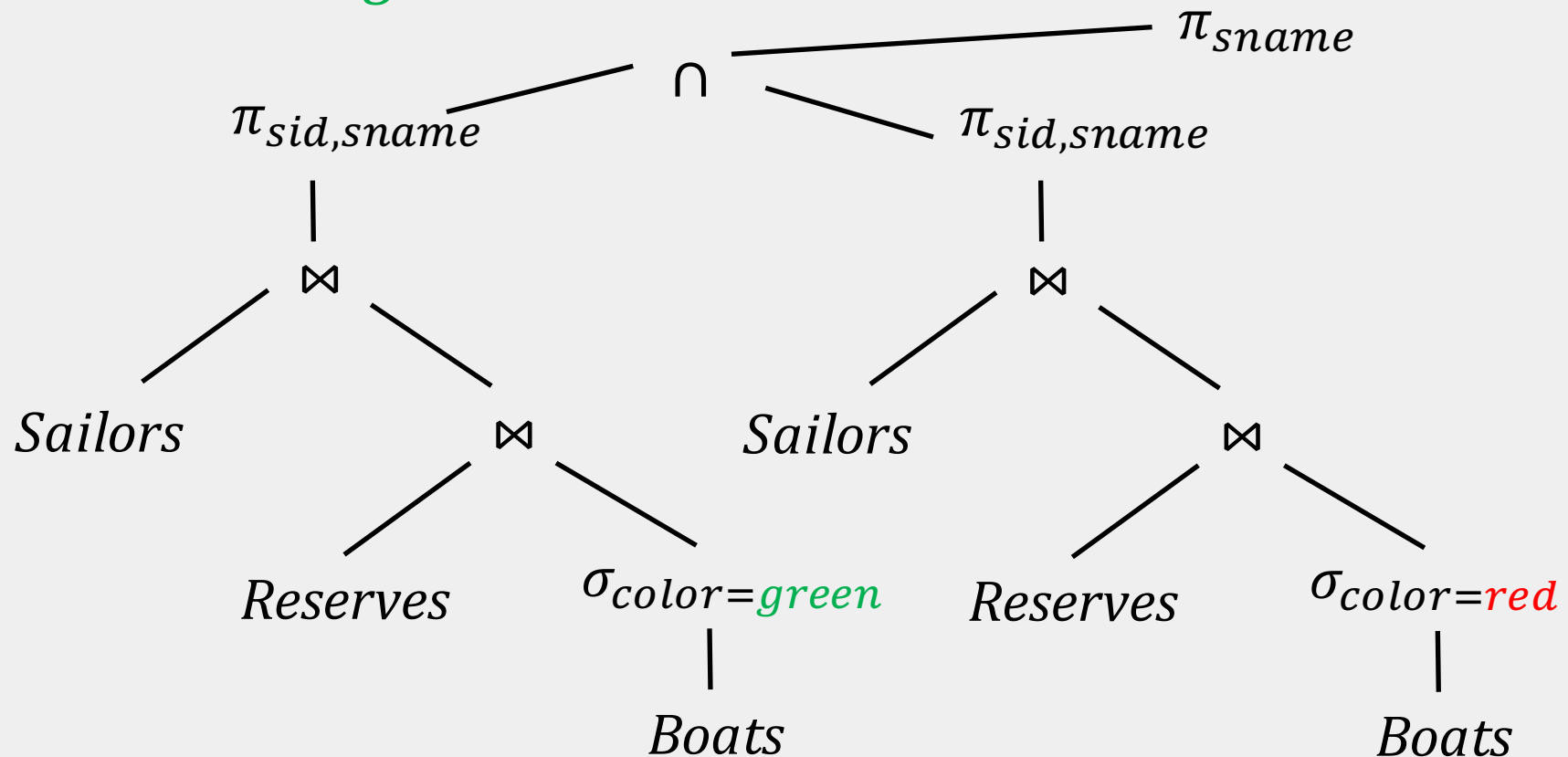
EXAMPLE DB: SAILORS

Q3: *What are the names of the sailors who have reserved a **green** or **red** boat?*



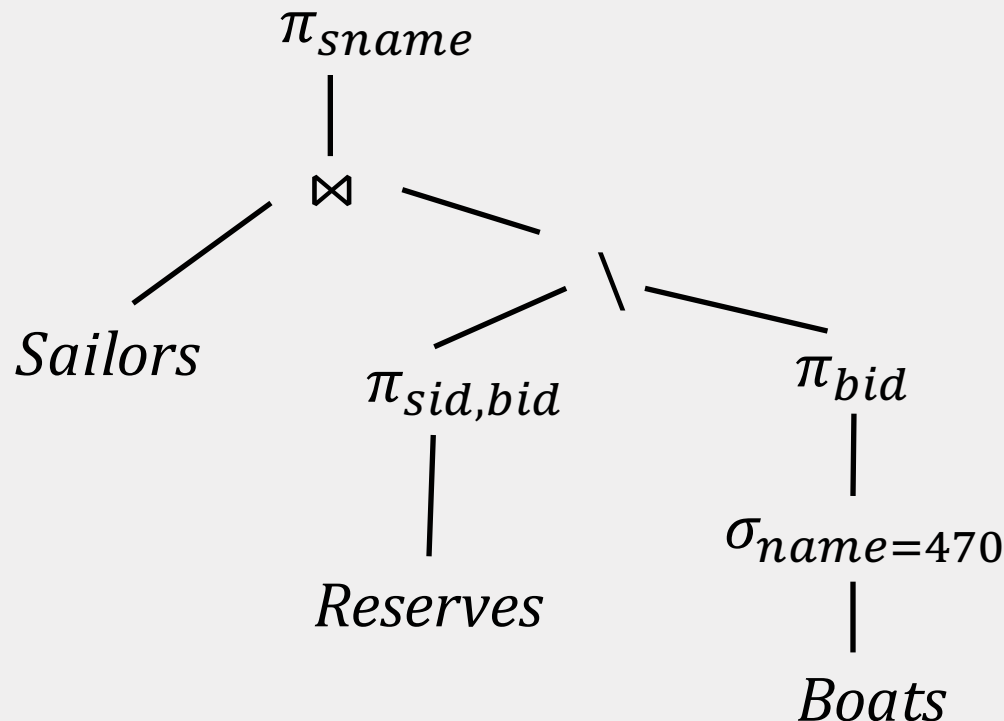
EXAMPLE DB: SAILORS

*Q4: What are the names of the sailors who have reserved a **green** and **red** boat?*



EXAMPLE DB: SAILORS

Q5: Find the names of the sailors who have reserved all boats with name "470".



EXAMPLE DB: PRODUCTS

Product (pid, name, price, category, maker-cid)

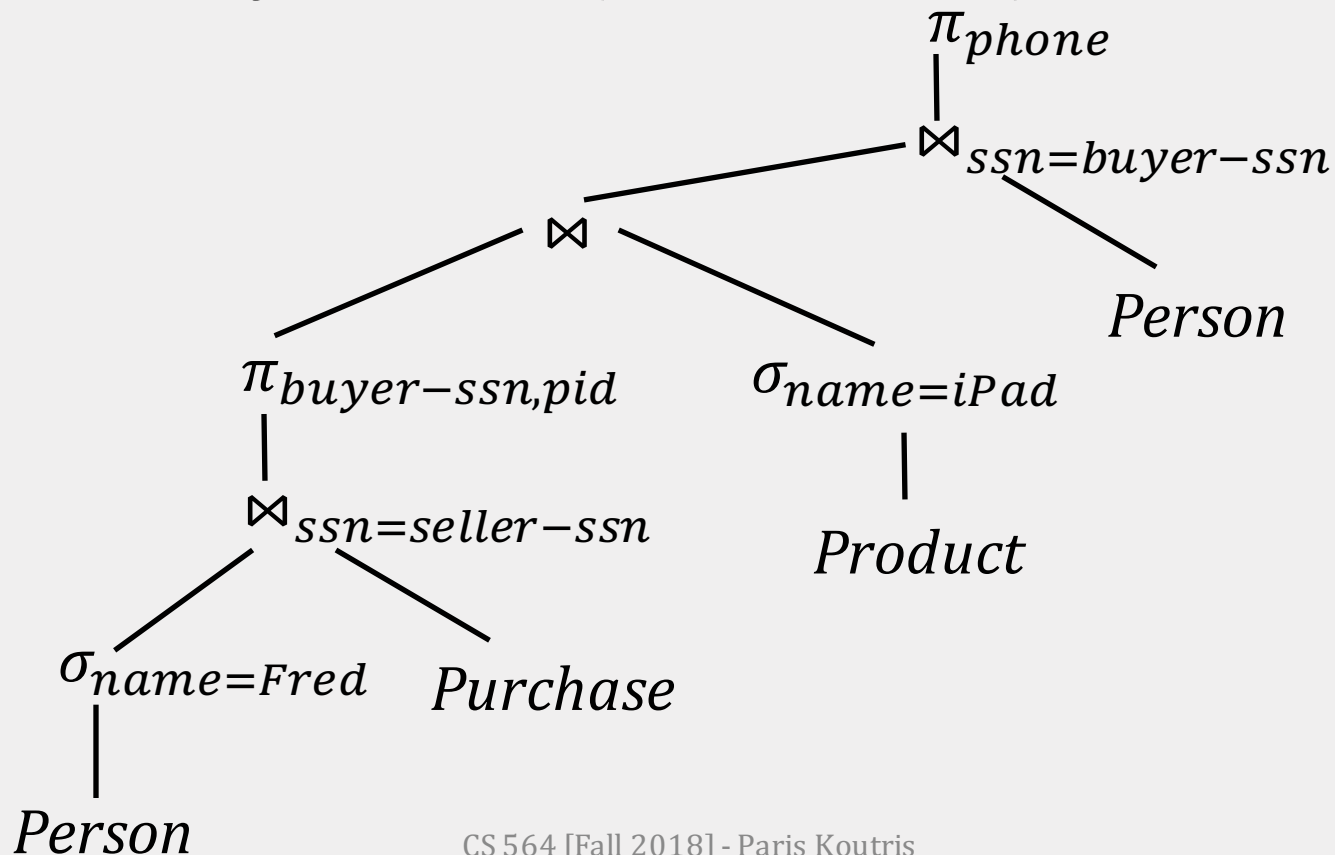
Purchase (buyer-ssn, seller-ssn, store, pid)

Company (cid, name, country)

Person (ssn, name, phone, city)

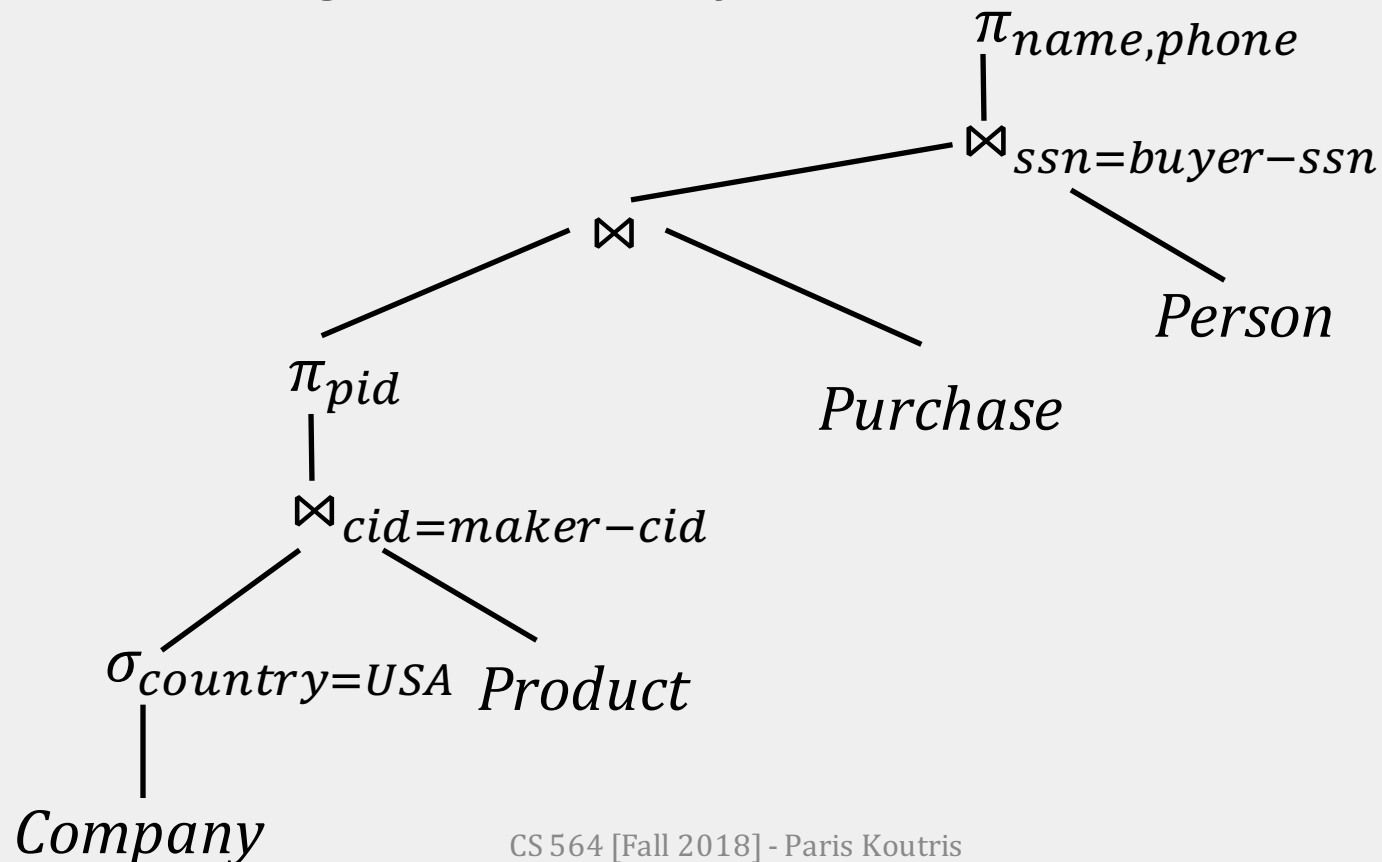
EXAMPLE DB: PRODUCTS

Q6: Find the phone numbers of the people who have bought iPads from Fred (the salesman).



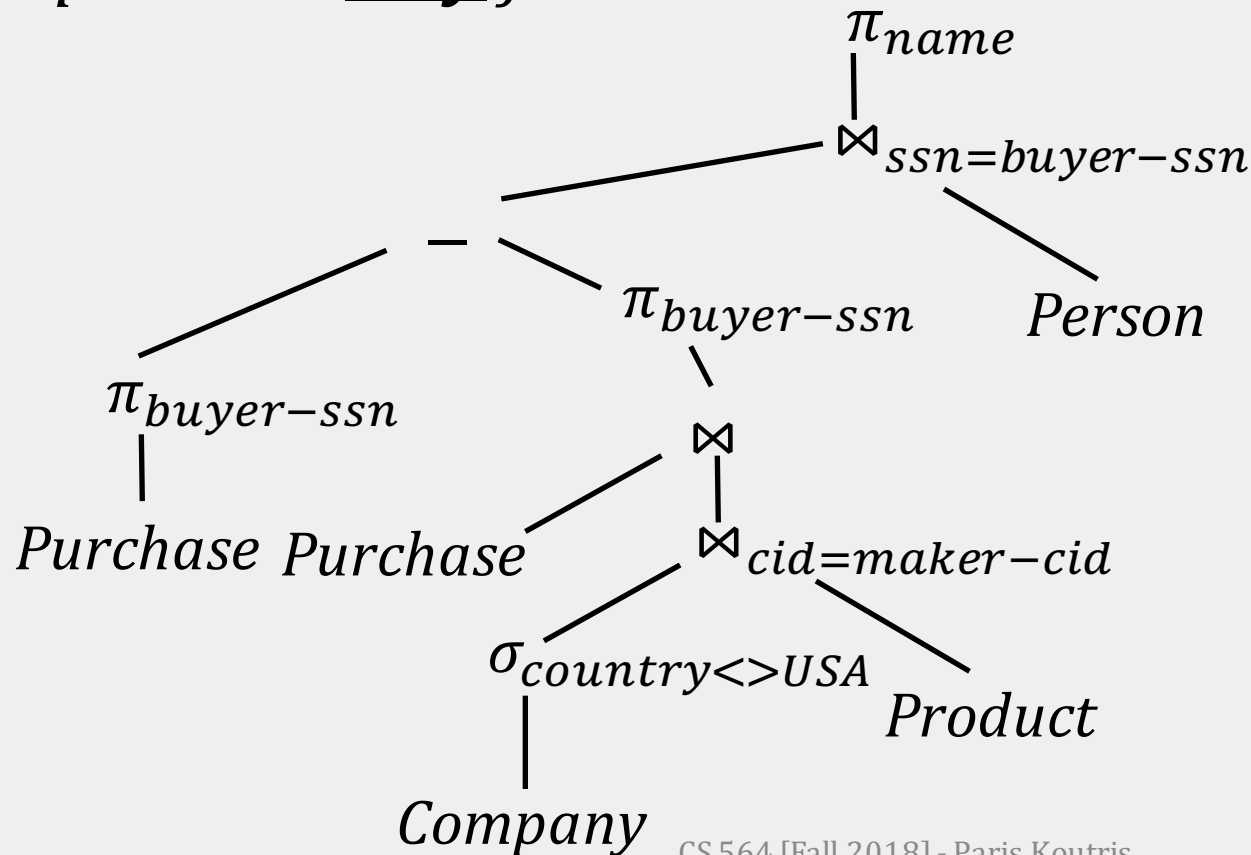
EXAMPLE DB: PRODUCTS

Q7: Find the names and phone numbers of the people who have bought products from the USA.



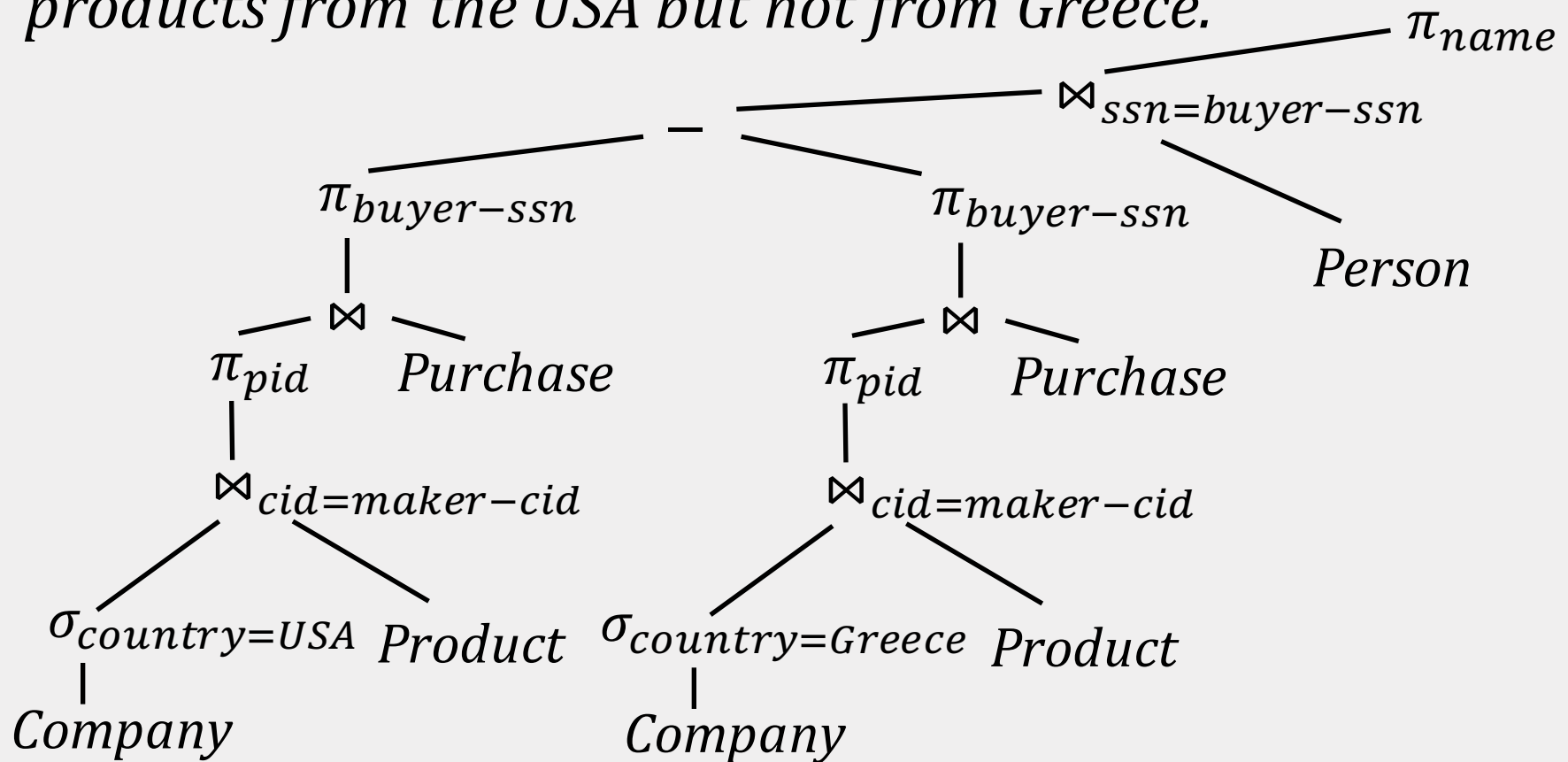
EXAMPLE DB: PRODUCTS

Q8: Find the names of the people who have bought products only from the USA.



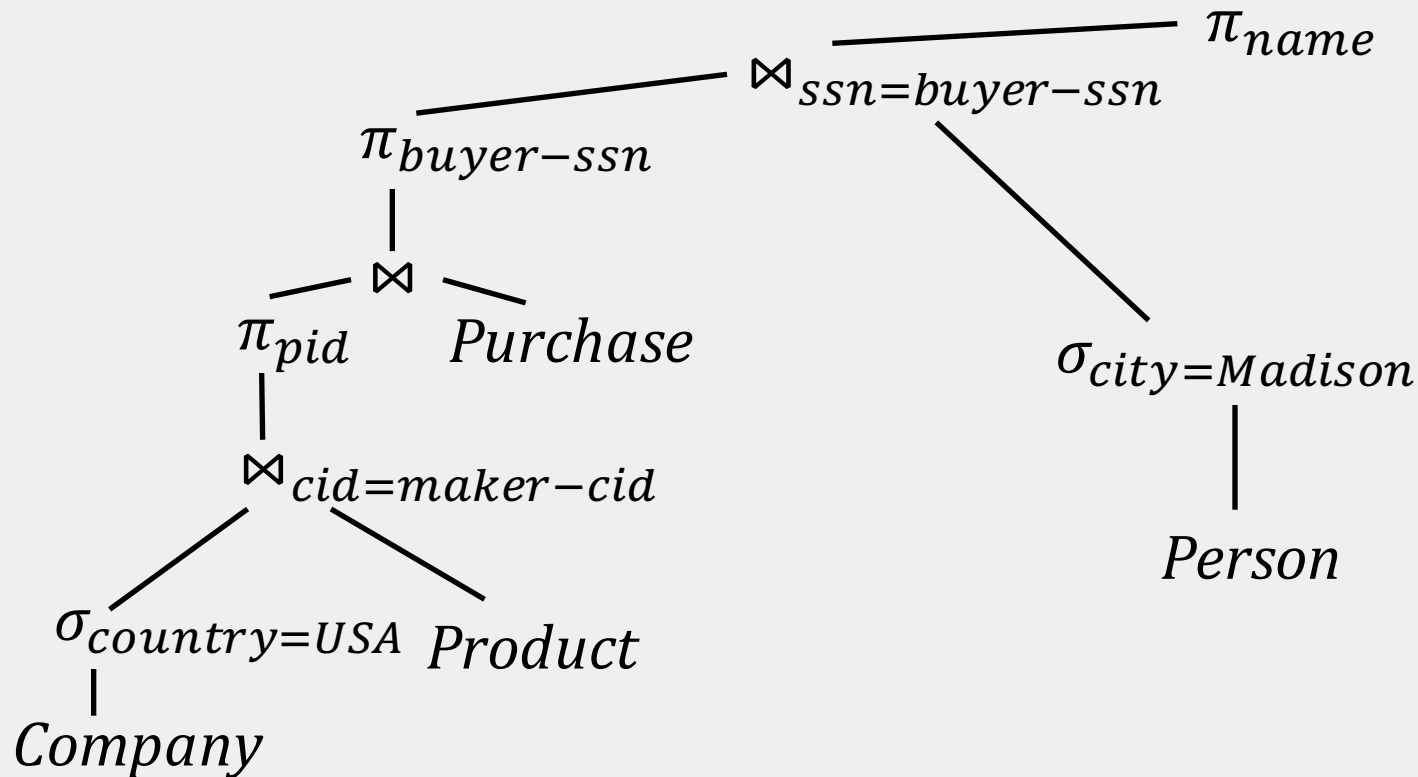
EXAMPLE DB: PRODUCTS

Q9: Find the names of the people who have bought products from the USA but not from Greece.



EXAMPLE DB: PRODUCTS

Q10: Find the names of the people who have bought products from the USA and live in Madison.



EXAMPLE DB: FLIGHTS

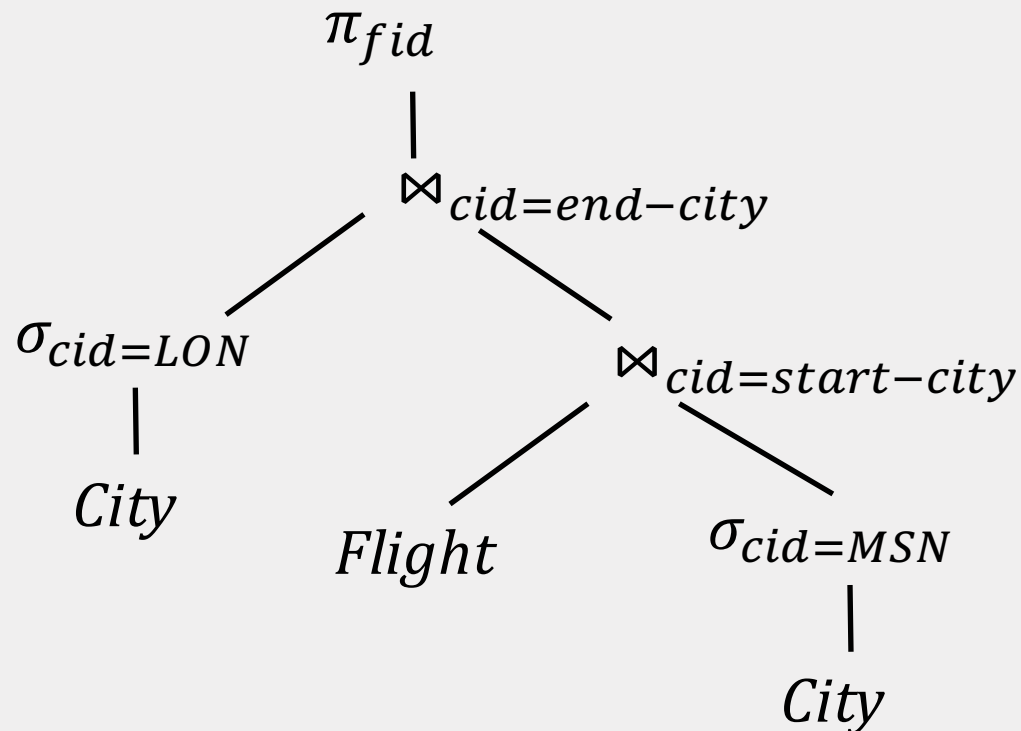
City (cid, name, population)

Flight (fid, length, start-city, end-city, aid)

Airline (aid, name, profit)

EXAMPLE DB: FLIGHTS

Q11: Find the flight ids for flights that start in a city with id “MSN” and end in a city with id “LON”.



EXAMPLE DB: FLIGHTS

Q12: Find the names of the cities that have a flight for every airline with profit more than 0.

