Relational Algebra: Examples

CS 564- Spring 2018

ACKs: *Dan Suciu, Jignesh Patel, AnHai Doan*

EXAMPLE DB: SAILORS

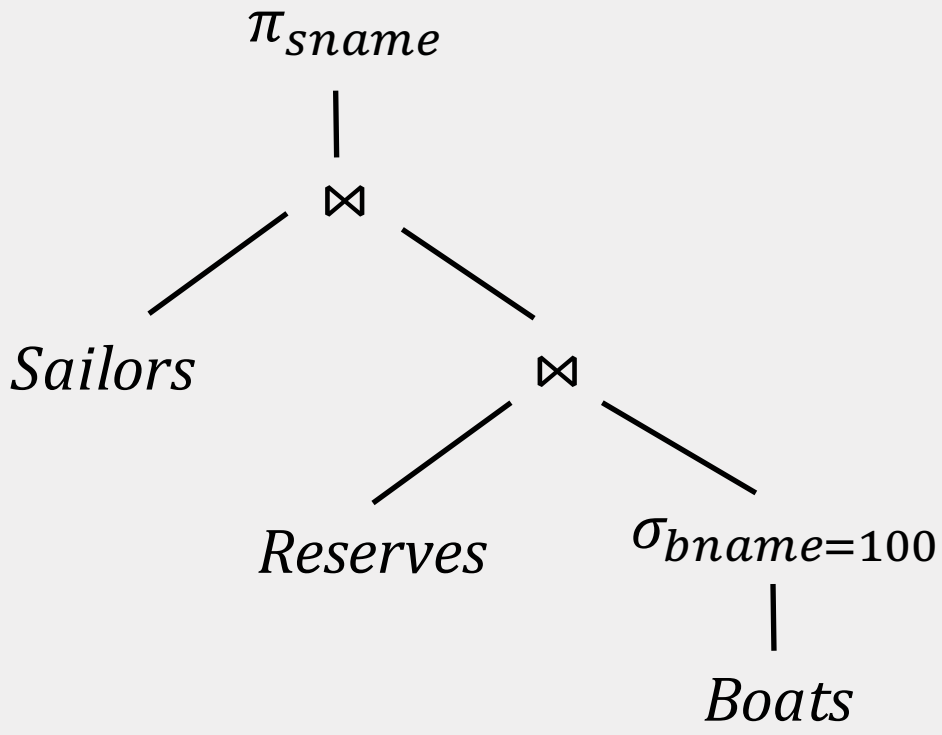
Sailors (sid, sname, rating, age)

Reserves (sid, bid, day)

Boats (bid, bname, color)

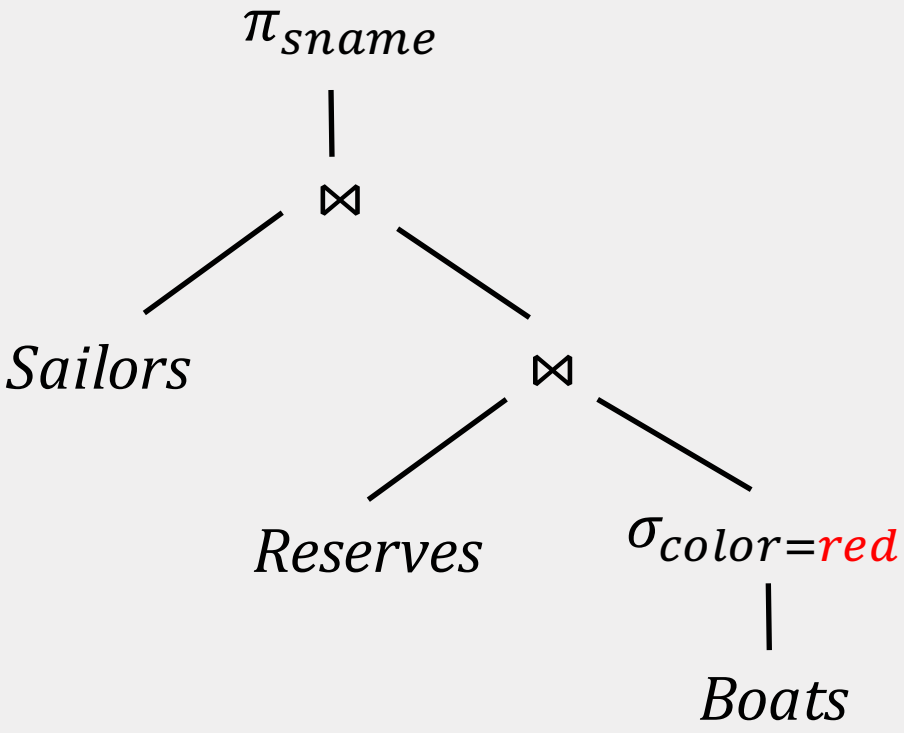
EXAMPLE DB: SAILORS

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



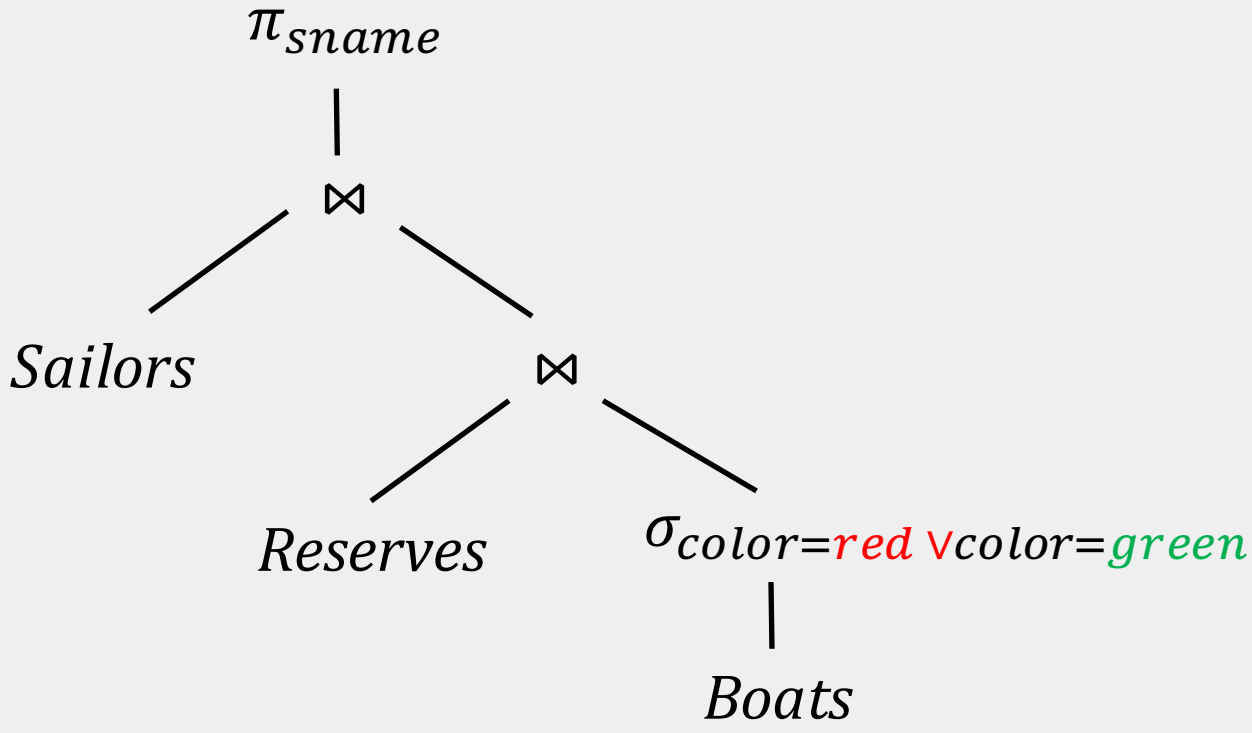
EXAMPLE DB: SAILORS

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



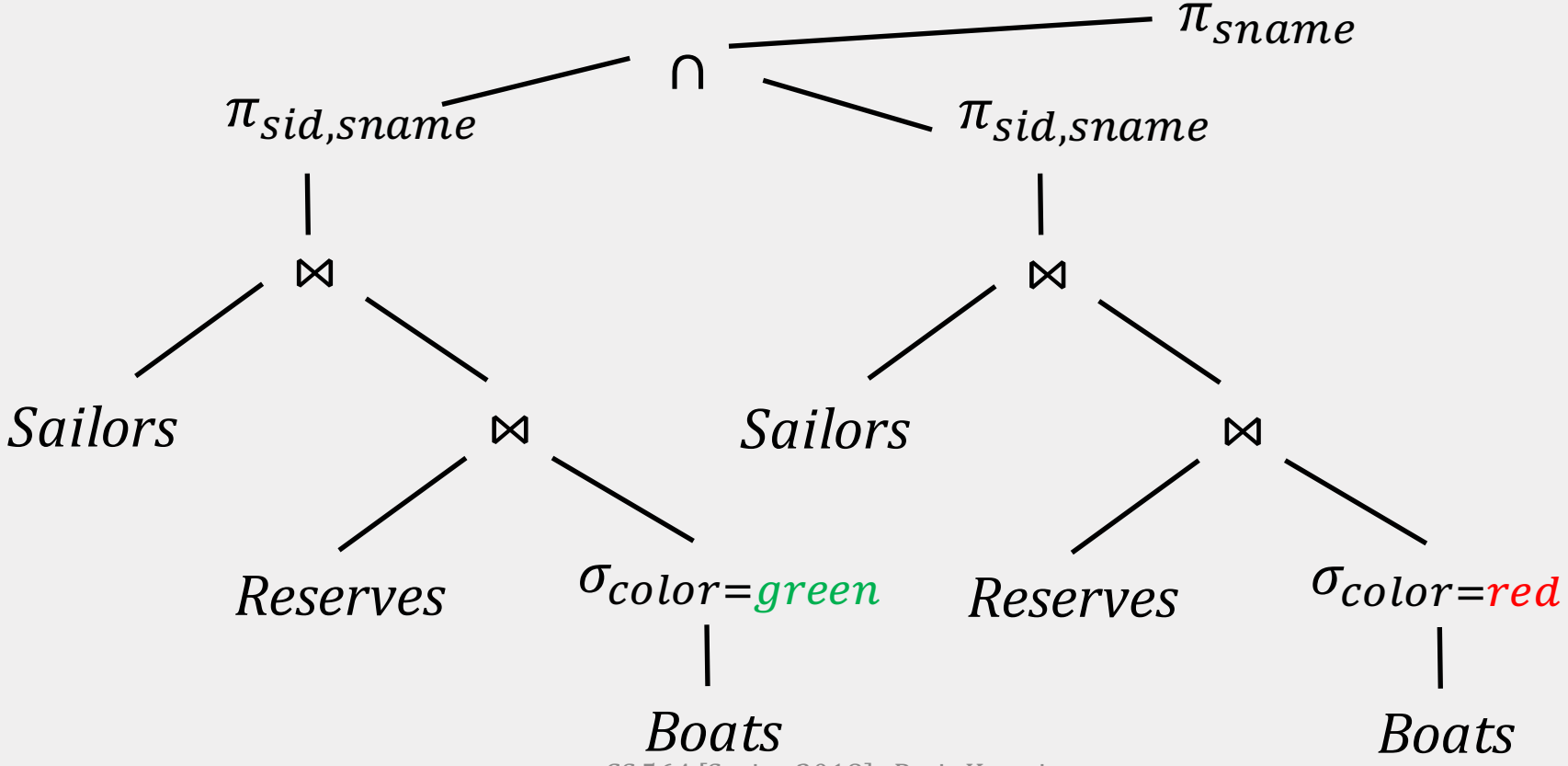
EXAMPLE DB: SAILORS

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



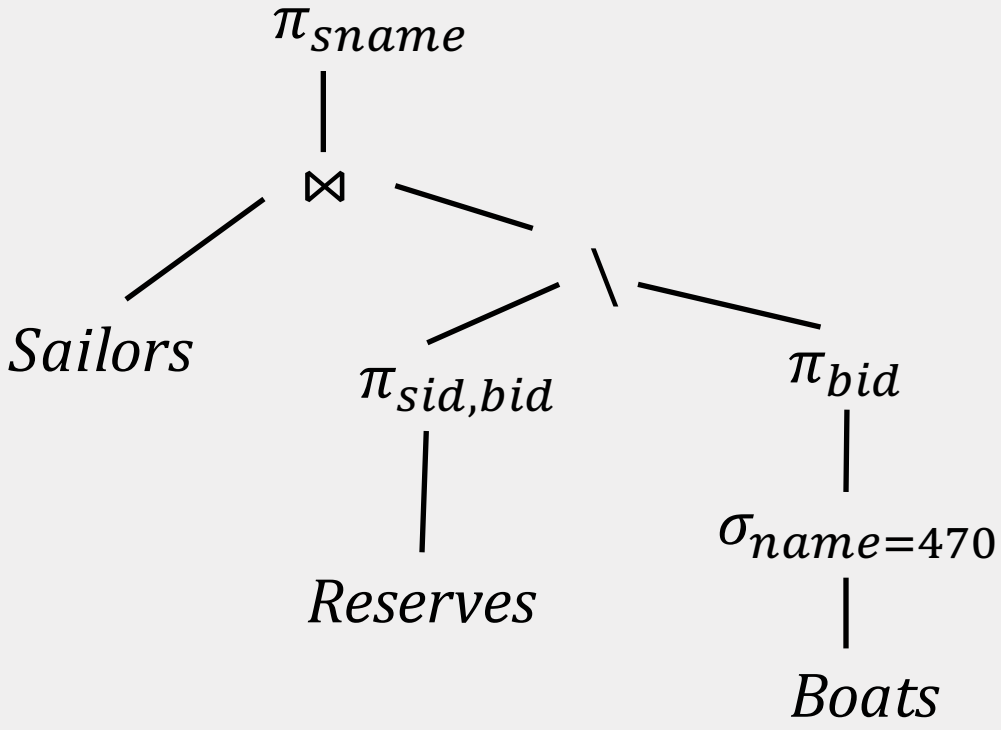
EXAMPLE DB: SAILORS

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)

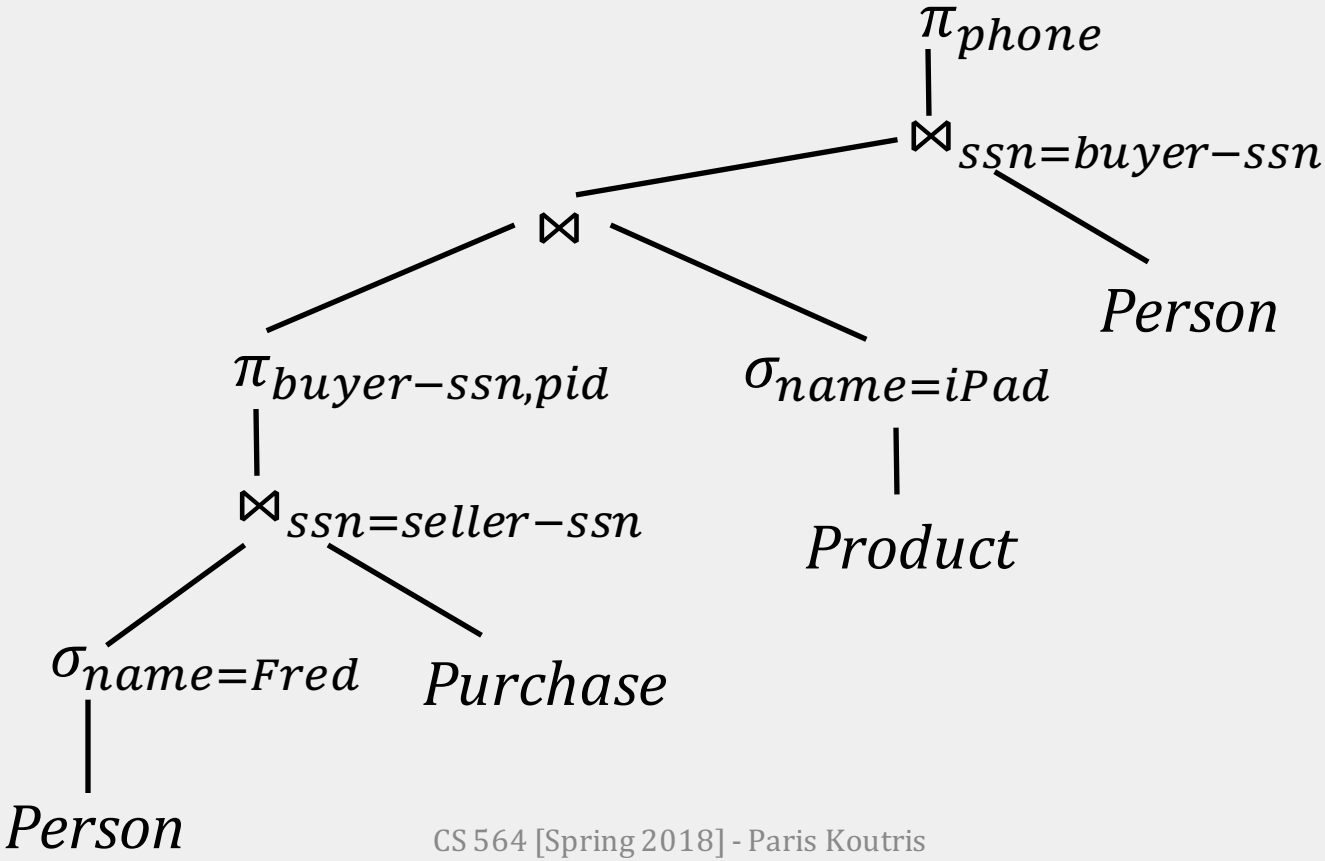
Purchase (buyer-ssn, seller-ssn, store, pid)

Company (cid, name, country)

Person (ssn,name, phone, city)

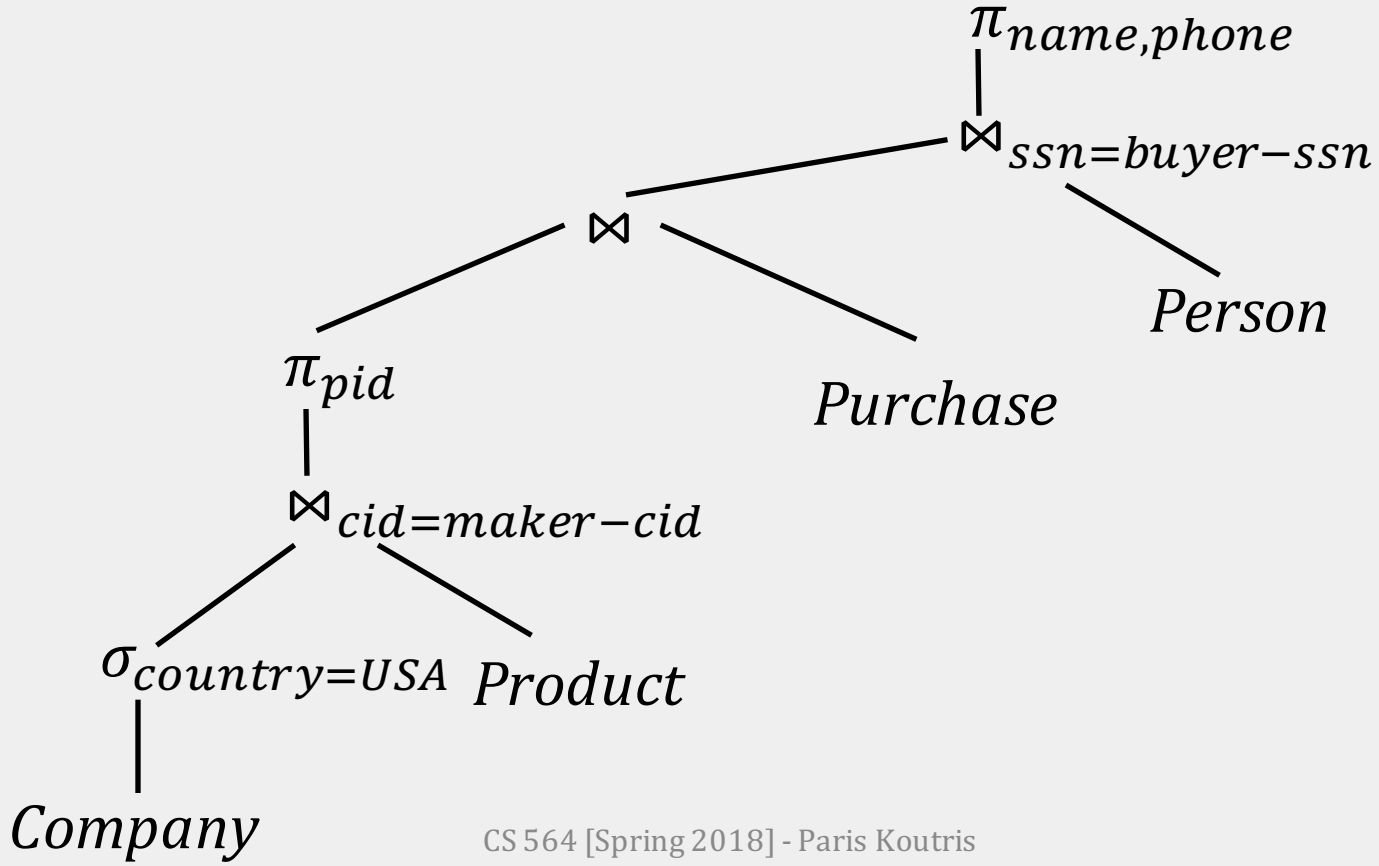
EXAMPLE DB: PRODUCTS

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



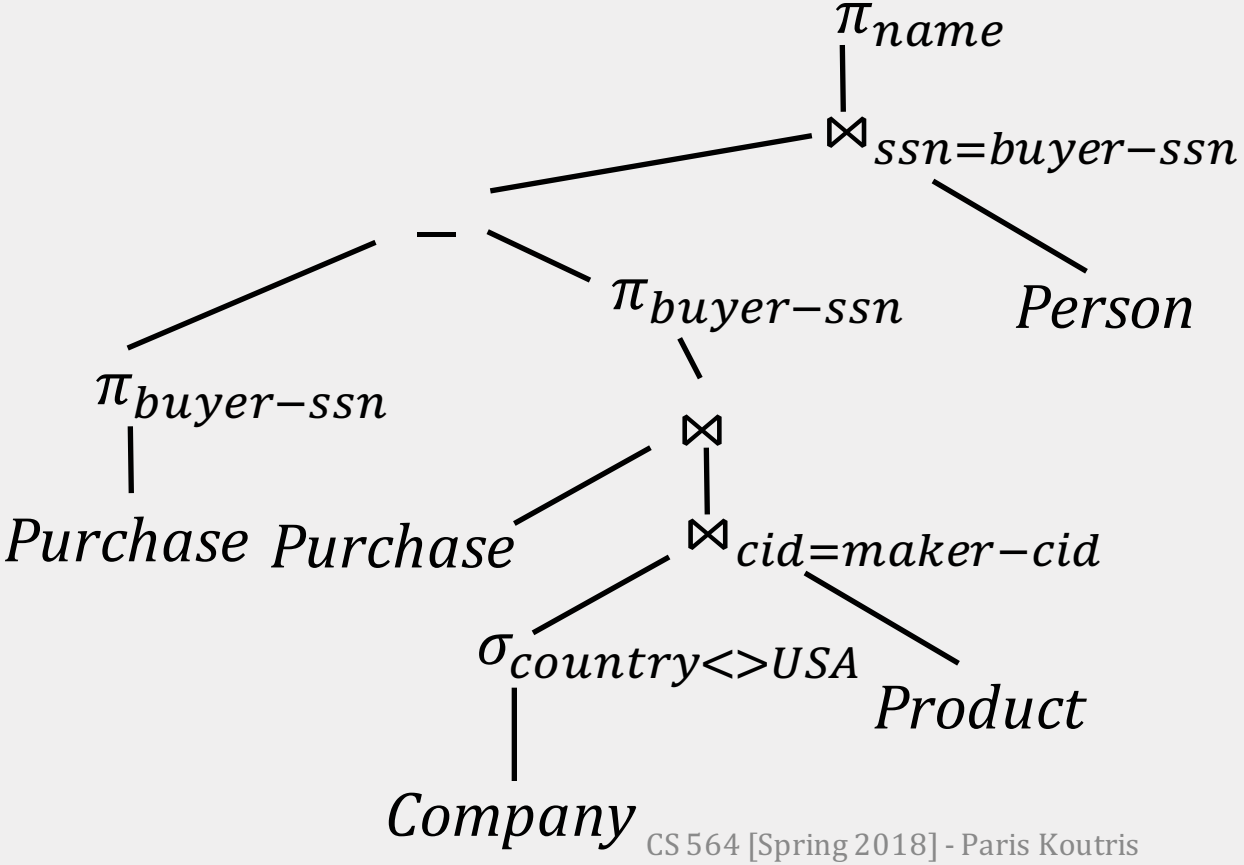
EXAMPLE DB: PRODUCTS

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



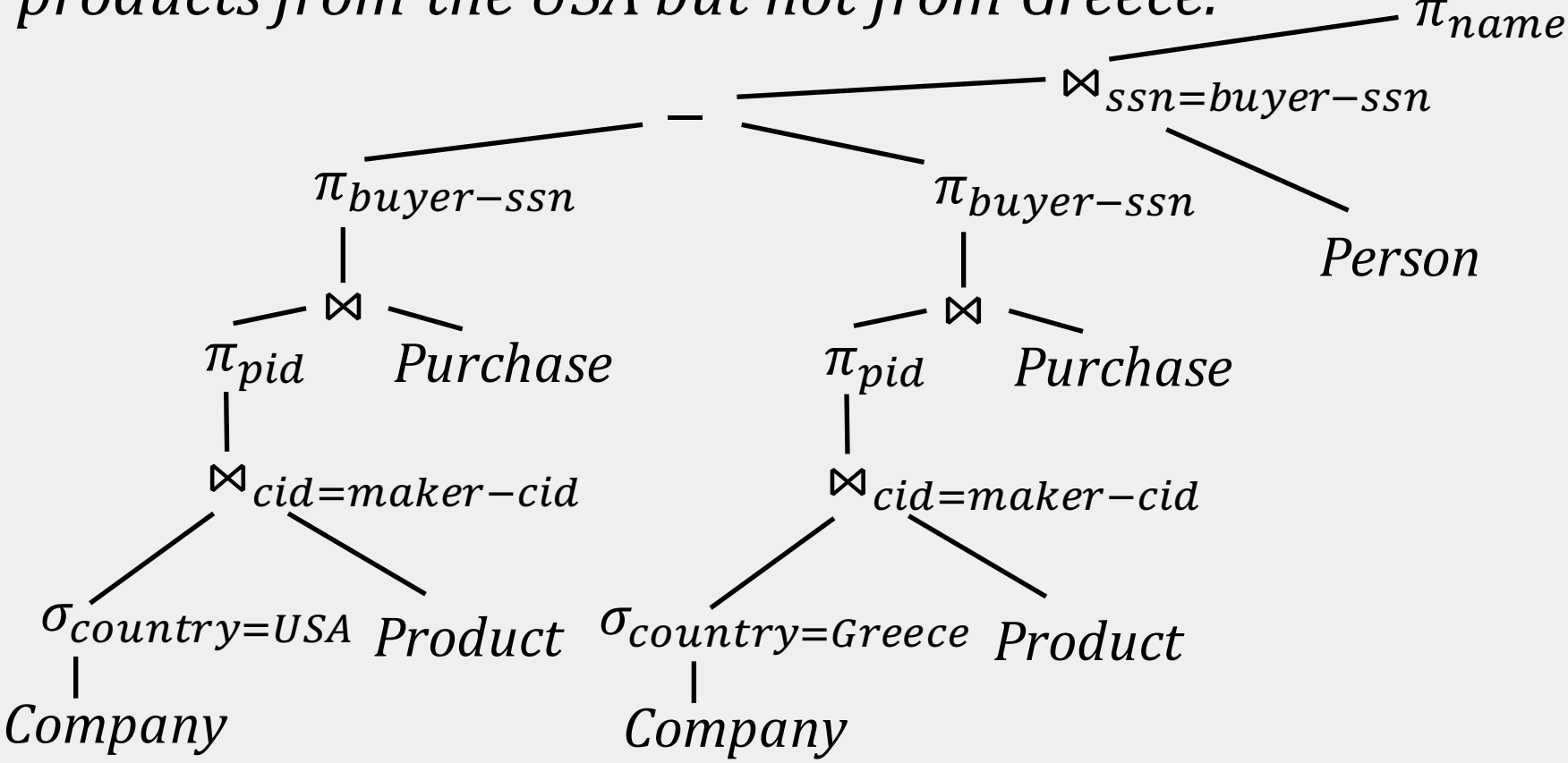
EXAMPLE DB: PRODUCTS

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



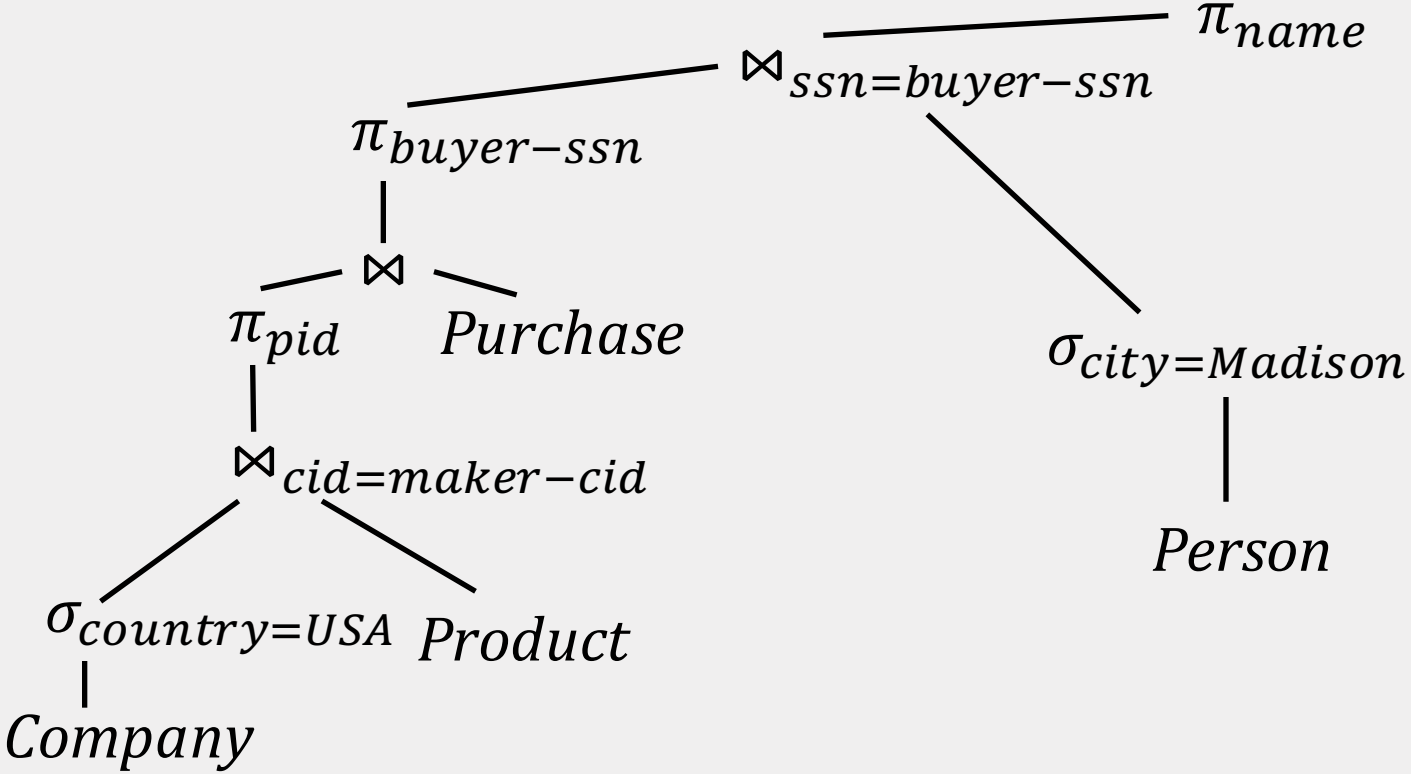
EXAMPLE DB: PRODUCTS

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

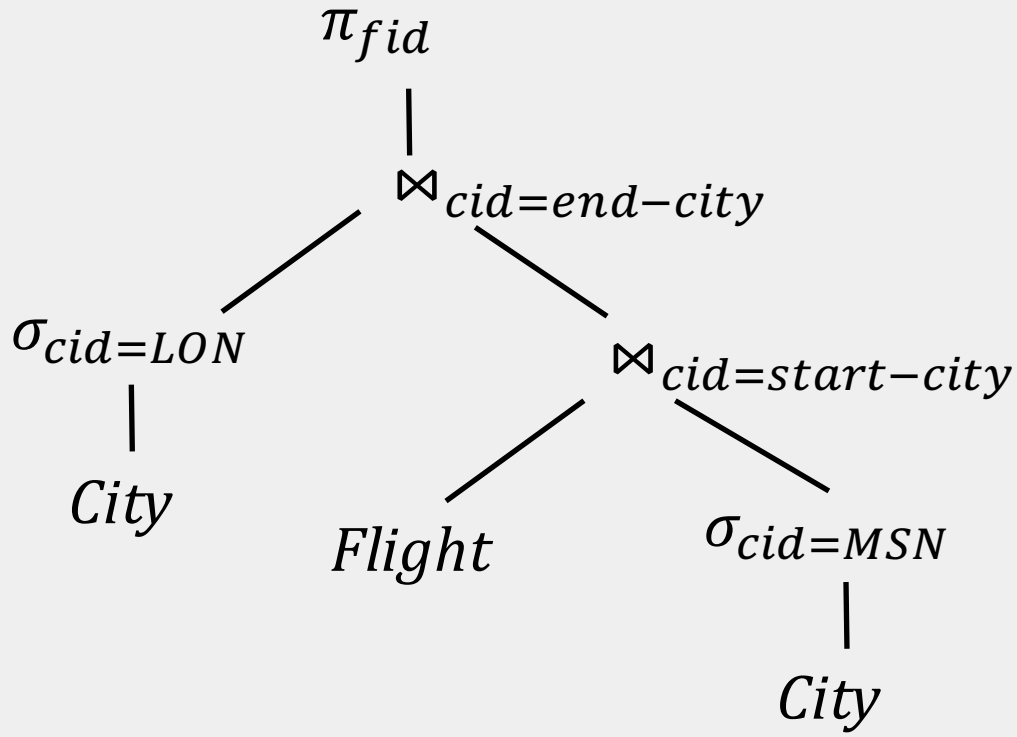
City (cid, name, population)

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.*