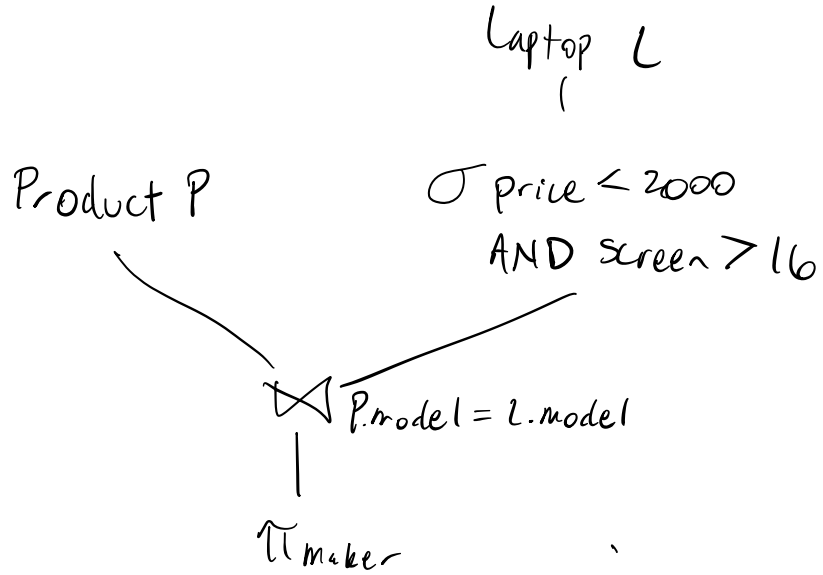
Relational Algebra ↔ SQL

- SELECT ↔ projection π
- FROM ↔ input tables
- WHERE ↔ Selection σ, join predicates
- DISTINCT ↔ Duplicate elimination δ
- ORDER BY ↔ Sorting τ
- GROUP BY ↔ GroupBy aggregations γ
- UNION, INTERSECT, EXCEPT ↔ Set Op's $\cup, \cap, -$
- JOIN ↔ Join

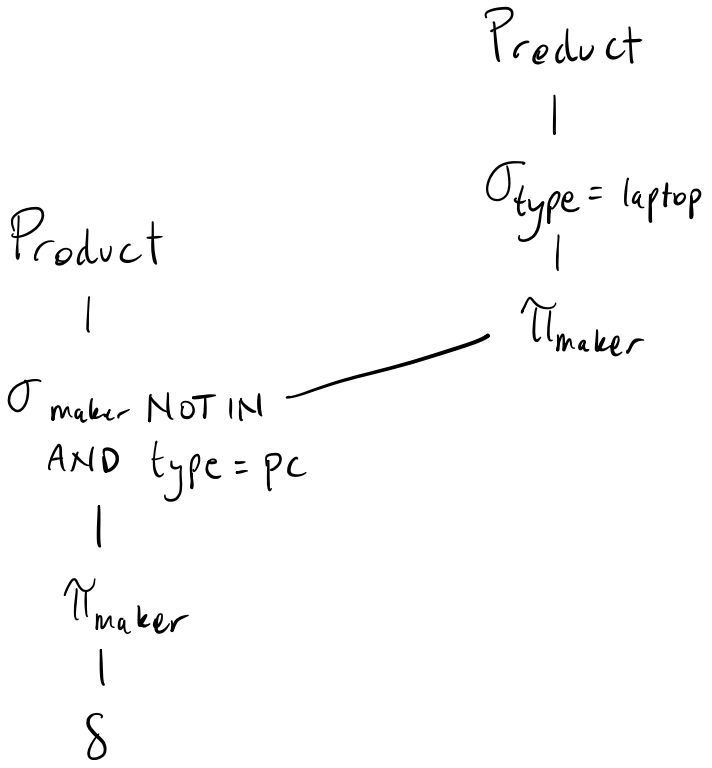
David Dominguez

1.) 2002 is the only laptop satisfying this, and maker is E.



2.) makers making PC's: {A, B, C, D, E}
makers making Laptops: {E, A, B, F, G}

makers making PC's, but not laptops: {C, D}



3.) For every maker that sells both PCs and Printers, find the combination of PC and Printer that has maximum price

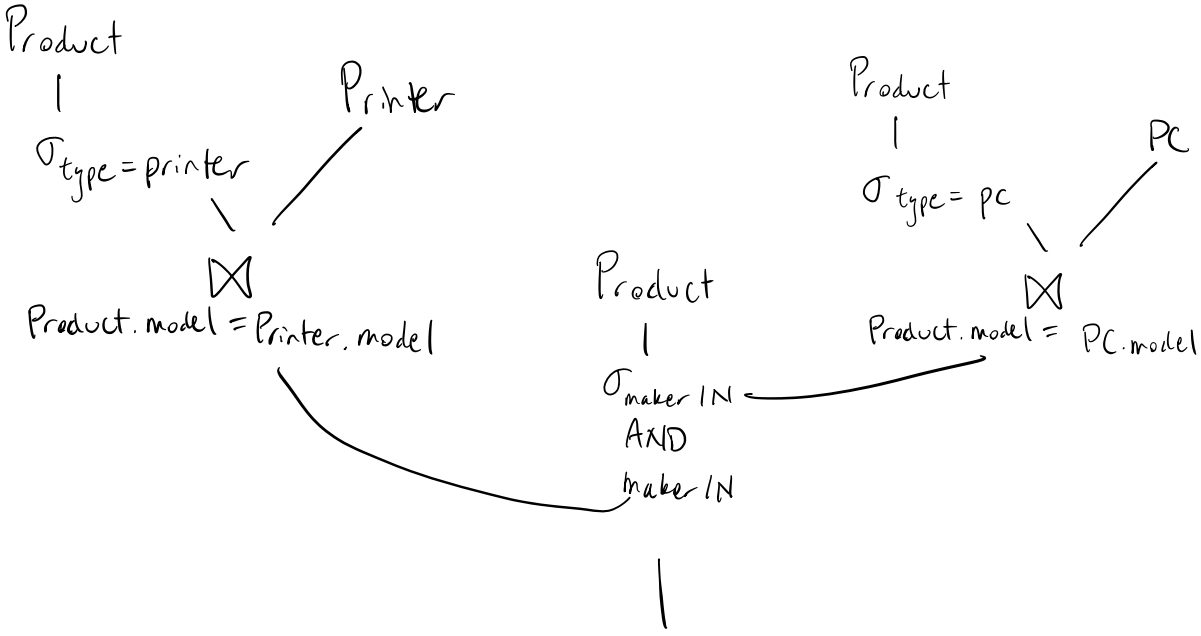
makers that sell PCs: {A, B, C, D, E}
makers that sell Printers: {H, D, E}

Maximum of maker D: max(PC) + max(Printer)

770 + 120 = 890

Maximum of maker E: 959 + 899 = 1858

Ans: D, 1008, 3004, 890
E, 1011, 3003, 1858

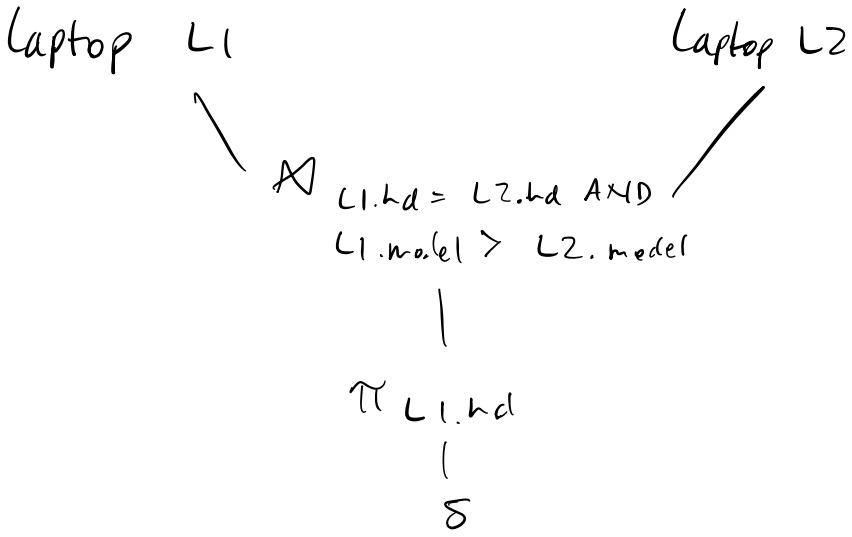


γ maker, PC.model, Printer.model, MAX(PC.price + Printer.price)

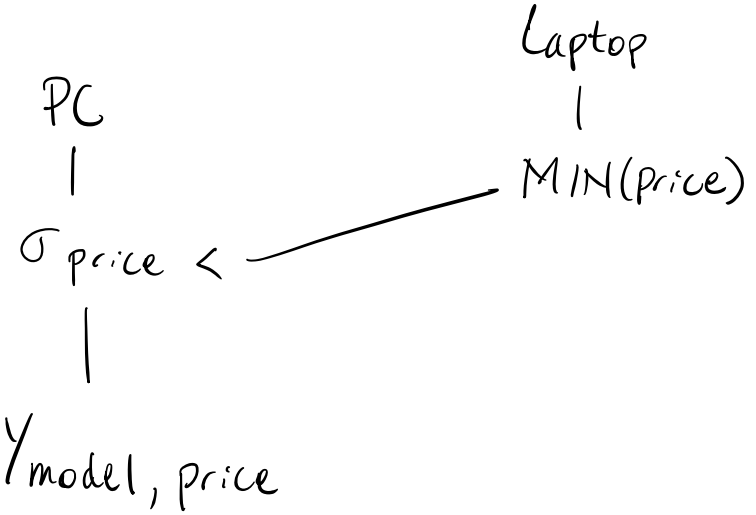
4.) laptop hd sizes offered in at least 2 diff models?

{60, 80, 120}

{03,04, 02,06,09, 05,07}



5.) What PCs are less expensive than all Laptops?
Print the model & the price



6.) makers making laptops: {E, A, B, F, G}
makers making at least 2 printer models: {E, D, H}