Product (maker, model, type)

PC (model, speed, ram, hd, price)

Laptop (model, speed, ram, hd, screen, price)

Printer (model, color, type, price)

* Primary key: model
* Foreign key:

1. What PC models have a speed of at least 3.00?

SELECT model

FROM PC

WHERE speed >= 3.00;

σ speed >= 3.00 (PC)

1. Which manufacturers make laptops with a hard disk of at least 100GB?

SELECT DISTINCT maker

FROM Product

WHERE type = 'Laptop' AND model IN (SELECT model FROM Laptop WHERE hd >= 100);

π maker (σ type='Laptop' (Product)) ⋈ model=model (σ hd>=100 (Laptop))

1. Find the model number and price of all products ( of any type) made by manufacturers B.

SELECT Product.model, Product.type, price

FROM Product LEFT JOIN PC ON Product.model = PC.model

LEFT JOIN Laptop ON Product.model = Laptop.model

LEFT JOIN Printer ON Product.model = Printer.model

WHERE maker = 'B';

π model, type, price ((σ maker='B' (Product)) ⋈ model=model ((PC) ∪ (Laptop) ∪ (Printer)))

1. Find the model number of all color laser printers

SELECT model

FROM Printer

WHERE color = 'y' AND type = 'laser';

π model (σ color='y' AND type='laser' (Printer))

1. Find those manufacturers that sell Laptops, but not PC’s.

SELECT DISTINCT maker

FROM Product

WHERE type = 'Laptop' AND maker NOT IN (SELECT DISTINCT maker FROM Product WHERE type = 'PC');

π maker (σ type='Laptop' (Product)) - π maker (σ type='PC' (Product))