

1. 查询制造商B生产的所有类型产品的型号和价格

$(\pi_{model, price}(\sigma_{maker='B'}(Product \bowtie PC))) \cup (\pi_{model, price}(\sigma_{maker='B'}(Product \bowtie Laptop)))$

2. 查询所有速度在2.0以上的产品（包括PC和笔记本）的型号和价格

$(\pi_{model, price}(\sigma_{speed > 2.0}(Product \bowtie PC))) \cup (\pi_{model, price}(\sigma_{speed > 2.0}(Product \bowtie Laptop)))$

3. 查询所有只卖笔记本而不卖PC的制造商

$(\pi_{maker}(Product \bowtie Laptop)) - (\pi_{maker}(Product \bowtie PC))$

4. 查询所有具有相同CPU速度和内存容量的PC型号对

$\pi_{P.model, Q.model}((\rho_P(\pi_{model, speed, ram}(PC))) \bowtie P.model < Q.model \wedge P.speed = Q.speed \wedge P.ram = Q.ram (\rho_Q(\pi_{model, speed, ram}(PC))))$

5. 查询最快速度的PC型号

$\pi_{model(PC)} - \pi_{P.model}((\rho_P(PC) \bowtie P.speed < Q.speed \rho_Q(PC)))$

