

Exercise 2.4.1 (Relational algebra)

The database schema consists of four relations, whose schemas are:

```
Product(maker, model, type)
PC(model, speed, ram, hd, price)
Laptop(model, speed, ram, hd, screen, price)
Printer(model, color, type, price)
```

- a) What PC models have a speed of at least 3.00 GHz?
- b) Which manufacturers make laptops with a hard disk (hd) of at least 100 GB?
- c) Find the model number and price of products (of any type) made by manufacturer B.
- d) Find the model numbers of all color laser printers.
- e) Find those manufacturers that sell Laptops, but not PC's.
- !f) Find those hard-disk sizes that occur in two or more PC's.
- !g) Find those pairs of PC models that have both the same cpu speed and RAM, the size of memory. A pair should be listed only once, e.g., list (l,j) but not (j,i).
- !!h) Find those manufacturers of at least two different computers (PC's or laptops) with speeds of at least 2.80 GHz.
- !!i) Find the manufacturers of the computer (PC or laptop) with the highest available speed.
- !!j) Find the manufacturers of PC's with at least three different cpu speeds.
- !!k) Find the manufacturers who sell exactly three different models of PC.