

## COSC386: MidtermExam-PartB

Consider the following database schema that consists of four relations. The Product relation gives the manufacturer, model number, and type (PC, laptop, or printer) of various products. For convenience, model numbers are assumed to be unique over all manufacturers and product types (This assumption is not realistic, and a real database would include a code for the manufacturer as part of the model number.) The PC relation gives each PC a model number, the speed (of the processor, in gigahertz), the amount of RAM (in megabytes), the size of the hard disk (in gigabytes) and the price. The Laptop relation is similar, except that the screen size (in inches) is also included. The Printer relation records for each printer model whether the printer produces color output (true, if so), the process type (laser or ink-jet, typically), and the price.

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

**Write the following queries in SQL, and show the result of your queries using the data from Exercise 2.4.1.** They refer to the database schema of Exercise 2.4.1 on page 52-54 from the Textbook. Note that you will need to CREATE TABLES based on the above schemas and INSERT all the tuples into those tables before answering the following questions in SQL.

1. Give the manufacturer and speed of laptops with a hard disk of at least thirty gigabytes.
2. Find the model number and price of all products (of any type) made by manufacturer B.
3. Find those hard-disk sizes that occur in two or more PC's.
4. Find those pairs of PC models that have both the same speed and RAM. A pair should be listed only once; e.g., if  $(i, j)$  is listed, then no  $(j, i)$  in the list.
5. Find those manufacturers of at least two different computers (PC's or laptops) with speeds of at least 3.0.

**Submission:** Please save your solution as **xxx.sql** in the following format and submit to MyClass, where xxx is your firstLastName.

```
/* 1 * /
```

SQL Statement here...

```
/* copy your screen result or screenshot here and put them within comments.
```

```
*/
```

```
/* 2 * /
```

SQL Statement here...

```
/* copy your screen result or screenshot here and put them within comments.
```

```
*/
```

```
....
```