CS143
the With Construct

The relation: **warehouse(PartNo, SupplierNo, Price)**
describes the suppliers for each part, along with the price they charge. To cut inventory, the manager of our warehouse wants to eliminate non-competitive suppliers. Competitive suppliers are those that supply at least two parts at a minimum cost (however they might share this minimum with other suppliers). All the others are non-competitive suppliers.

A1 *Write an SQL query to find all non-competitive suppliers.*

```
%competive suppliers
select SupplierNo
        from warehouse as w1
       where w1.Price = (select min(w2.Price)
                         from warehouse as w2
                                where w2.PartNo=w1.PartNo)
group by SupplierNo having count(w1.PartNo) >=2

%for non-competive change >= to <2.
```

%competive suppliers

warehouse(PartNo, SupplierNo, Price)

```
With competive(PartNo, min(Price))
                    from warehouse
                    Group by  PartNo)
select SupplierNo
from  warehouse  where  (PartNo, Price) In competive
Group by SupplierNo
      having count(*) >=2
```

% Or competitive could be a concrete view

Change the definition: competitive suppliers charge a price strictly lower than those of all other suppliers.

```
%competive suppliers
select SupplierNo
        from warehouse as w1
       where w1.Price > ALL (select w2.Price
                             from warehouse as w2
                                  where w2.PartNo=w1.PartNO and
                                  w2.SupplierNo <> w1.SupplierNO)
group by SupplierNo having count(w1.PartNo) >=2

%for non-competive change >= to <2.
```

Two more questions

- Delete redundant suppliers?
- Are the previous queries expressible in RA?