CIS3530 L1

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1.

```
π sname (σ pno='P2' (shipment) ⋈ (supplier))
```

supplier.sname
'Larka'
'Blake'

2.

```
(π sname (supplier)) - (π sname (σ pno='P2' (shipment) ⋈ (supplier)))
```

supplier.sname
'Henry'
'Smith'
'Adam'
'Arthur'

3.

```
pi sname (pi sno (pi pno sigma colour='Blue' part ⋈ shipment) ⋈ supplier)
```

supplier.sname
'Larka'
'Blake'
'Smith'
'Adam'

4.

```
pi sname ((pi sno,pno shipment ÷ (pi pno sigma colour='Blue' part)) ⋈ supplier)
```

supplier.sname
'Larka'
'Blake'

5.

```
pi sname ((pi sno,pno shipment ÷ (pi pno sigma pno='P2' or pno='P1' part)) ⋈ supplier)
```

supplier.sname
'Blake'

6.

```
π qty shipment - π a.qty σ a.qty < b.qty (ρ a π qty shipment x ρ b π qty shipment)
```

shipment.qty
500

7.

```
t1 = rho a shipment x rho b shipment

t2 = t1 x rho c shipment

(pi a.sno sigma a.sno=b.sno and a.pno!=b.pno t1) - (pi a.sno sigma a.sno=b.sno and a.sno=c.sno and
a.pno!=b.pno and a.pno!=c.pno and b.pno!=c.pno t2)
```

a.sno
'S2'