

## Fråga 1.

### GENRE-

**genre**nr - Kandidatnyckel - Primärnyckel - Främmandenyckel

**genre**namn - Kandidatnyckel

### FILM-

**film**nr - Kandidatnyckel - Primärnyckel - Främmandenyckel

**titel** - Kandidatnyckel

**pris** -

**genre**nr - Kandidatnyckel - Primärnyckel - Främmandenycklar

### KUNDER-

**Namn** -

**kund**nr - Kandidatnyckel - Primärnyckel - Främmandenyckel

**adress** -

**telefon**nr - Kandidatnyckel

### UTHYRDA FILMER -

**film**nr - Kandidatnyckel - Primärnyckel - Främmandenycklar

**kund**nr - Kandidatnyckel - Primärnyckel - Främmandenyckel

**datum** -

**tid** -

### SKÅDESPELARE-

**actor**nr - Kandidatnyckel - Primärnyckel - Främmandenyckel

**namn** -

### SKÅDESPELARE\_FILM -

**actor**nr - Kandidatnyckel - - Främmandenyckel

**film**nr - Kandidatnyckel - Främmandenyckel

De relationer med mer än en Kandidatnyckel vet man ej vilken som kommer väljas till primärnyckel utan jag har markerat de potentiella primärnycklar, detta i sin tur ger även att flera olika främmande nycklar skulle kunna finnas och dessa är därför också inskrivna.

## Fråga 2.

- a)  $\Pi$  CourseName, CourseNumber ( $\sigma$  CreditHour > 3 (COURSE))
- b)  $\Pi$  CourseNumber ( $\sigma$  Semester = 'Fall' and Year = '98' (SECTION))
- c)  $\Pi_{Name, Grade} (Student * (\sigma_{Course = "Data Structures"} (Course * Grade_Report)))$
- d)  $\Pi_{Name, Course\_Number} (Student * Course) * (\sigma_{Semester = "Autom" AND Year = 99} (Section))$   
 $\cup (Student * Course) * (\sigma_{Semester = "Spring" AND Year = 98} (Section))$

## Fråga 3.

1. SELECT DISTINCT Color, City FROM PART;
2. SELECT \* FROM Shipments WHERE QTY BETWEEN 250 AND 350;
3. SELECT sname FROM Suppliers JOIN Parts JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND  
Parts.PNR = Shipments.PNR AND  
Shipments.QTY > 300 AND  
(Parts.COLOR = 'Red' OR Parts.COLOR = "Blue");
4. INSERT INTO Suppliers(snr, sname, status, city) VALUES('S10', 'smith', 0, 'New York')
5. SELECT Parts.PNR, Parts.PNAME FROM Parts  
JOIN Shipments WHERE  
city = "London" AND  
Parts.PNR = Shipments.PNR AND Shipments.SNR = "S1"
6. SELECT DISTINCT Suppliers.snr, Suppliers.sname FROM Suppliers JOIN Parts  
JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND  
Shipments.PNR = Parts.PNR AND  
Suppliers.city = Parts.CITY
7. SELECT DISTINCT Suppliers.sname, Parts.PNR, Suppliers.CITY FROM Parts JOIN  
Suppliers WHERE Suppliers.CITY Like "\_o%"
8. SELECT COUNT(Parts.COLOR) FROM Parts WHERE Parts.COLOR = "Blue"
9. SELECT Parts.PNR, Parts.PNAME FROM Parts WHERE Parts.COLOR = "Blue"

10. SELECT Suppliers.sname FROM Suppliers JOIN Parts JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND Shipments.PNR = Parts.PNR AND  
Suppliers.city = Parts.CITY AND Parts.COLOR = "Blue"
11. SELECT Parts.PNAME FROM Parts JOIN Suppliers JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND Shipments.PNR = Parts.PNR AND Parts.CITY  
= Suppliers.city AND Suppliers.sname = "smith"
12. SELECT COUNT(\*) FROM Suppliers JOIN Parts JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND  
Shipments.PNR = Parts.PNR AND  
Suppliers.CITY = "London" AND  
Parts.PNAME = "cam"
13. SELECT DISTINCT Parts.CITY FROM Parts JOIN Shipments JOIN Suppliers  
WHERE  
Suppliers.snr = Shipments.SNR AND  
Shipments.PNR = Parts.PNR AND  
Suppliers.city = "London" AND  
Parts.PNAME = "Bolt"
14. SELECT SUM(Shipments.QTY) FROM Shipments JOIN Suppliers WHERE  
Suppliers.snr = Shipments.SNR AND  
Suppliers.sname = "Jones"
15. SELECT DISTINCT Parts.COLOR FROM Parts JOIN Suppliers WHERE  
Suppliers.sname = "Smith"
16. SELECT DISTINCT Suppliers.snr,Suppliers.sname, SUM(Shipments.QTY) AS  
"Quantity" FROM Suppliers JOIN Shipments JOIN Parts WHERE  
Shipments.PNR = Parts.PNR AND  
Suppliers.snr = Shipments.SNR AND  
Parts.COLOR = "Blue" GROUP BY Suppliers.snr
17. SELECT Suppliers.sname, SUM(Shipments.QTY) AS `Quantity` FROM Shipments  
JOIN Suppliers JOIN Parts WHERE  
Parts.PNR = Shipments.PNR AND  
Suppliers.snr = Shipments.SNR AND  
Suppliers.city = 'London' AND  
Parts.CITY != 'London' GROUP BY  
Suppliers.snr HAVING `Quantity` >= 200;

18. SELECT Parts.PNR,Parts.PNAME,Parts.CITY,SUM(Shipments.QTY) AS "Quantity"  
FROM Parts JOIN Suppliers JOIN Shipments WHERE  
Suppliers.snr = Shipments.SNR AND  
Shipments.PNR = Parts.PNR AND  
Suppliers.city = Parts.CITY  
GROUP BY Parts.PNR  
ORDER BY Parts.CITY
19. SELECT Parts.PNR, Parts.PNAME, SUM(Shipments.QTY) AS `Quantity` FROM  
Parts JOIN Shipments WHERE  
Parts.PNR = Shipments.PNR  
GROUP BY Parts.PNR  
HAVING 'Quantity' > 500;
20. SELECT s1.snr AS `s.snum`, s2.snr AS `second.snum` FROM  
Suppliers AS s1 INNER JOIN Suppliers AS s2 ON s1.snr > s2.snr WHERE  
s1.city != s2.city;
21. SELECT Parts.PNAME, FLOOR(AVG(Parts.WEIGHT)) AS 'Average Weight'  
FROM Parts  
GROUP BY Parts.PNAME