SQL

1. ```
select * from U
```

2. ```
select * from U
where Ville = 'Londres'
```

3. ```
select NF from PUF
where NU = 1 and NP = 1
```

4. (a) ```
select distinct NomP, Couleur
from P, PUF
where PUF.NP = P.NP and NF = 1
```

   (b) ```
select NomP, Couleur
from P
where NP in
  (select NP
    from PUF where NF = 1)
```

5. (a) ```
select distinct NF
from PUF, P
where Couleur = 'Rouge' and PUF.NP = P.NP and NU = 1
```

   (b) ```
select distinct NF from PUF
where NU = 1
and NP in
  (select NP
    from P where Couleur = 'Rouge')
```

6. (a) ```
select distinct NomF
from PUF, P, F, U
where Couleur = 'Rouge'
and PUF.NP = P.NP and PUF.NF = F.NF and PUF.NU = U.NU
and ( U.Ville = 'Londres' or U.Ville = 'Paris' )
```

   (b) ```
select NomF
from F
where NF in
  (select NF
    from PUF
    where NP in
      (select NP from P
        where Couleur = 'Rouge')
    and NU in
      (select NU from U
        where Ville = 'Londres or Ville = 'Paris'))
```

7. ```
select distinct NP
from PUF, F, U
where PUF.NF = F.NF and PUF.NU = U.NU and U.Ville = F.Ville
```

8. (a) ```
select distinct NP
from PUF, F, U
where PUF.NF = F.NF and PUF.NU = U.NU
and F.Ville = 'Londres' and U.Ville = 'Londres'
```

   (b) ```
select distinct NP
from PUF
where NF in
  ( select NF
```

```
              from F
              where Ville = 'Londres' )
          and NU in
            ( select NU
              from U
              where Ville = 'Londres' )
```

9. ```
   select distinct PUF.NU
   from PUF, F, U
   where PUF.NF = F.NF and PUF.NU = U.NU and U.Ville <> F.Ville
   ```

10. (a) ```
       select distinct first.NF
       from PUF first, PUF second
       where first.NF = second.NF and first.NU = 1 and second.NU = 2
       ```
    (b) ```
       select distinct NF
       from PUF
       where NU = 2
       and NF in
         ( select NF from PUF where NU = 1 )
       ```
    (c) ```
       (select NF from PUF where NU = 1)
                 intersect
       (select NF from PUF where NU = 2)
       ```

11. ```
    select distinct NU from PUF
    where NP in
      ( select NP from PUF
        where NF = 3 )
    ```

12. (a) ```
       select NP
       from P
       where Poids in
         (select min(Poids) from P)
       ```
    (b) ```
       select NP
       from P p1
       where not exists
         ( select *
           from P
           where p1.Poids > Poids )
       ```
    (c) ```
       select NP
       from P
       where Poids <= all (select Poids from P)
       ```

13. ```
    select NU from U
    where NU not in
      ( select NU
        from PUF, P, F
        where PUF.NP = P.NP and PUF.NF = F.NF
        and Couleur = 'Rouge' and Ville = 'Londres' )
    ```

14. (a) ```
       select distinct puf.NF
       from PUF puf, PUF puf1, PUF puf2, P
       where couleur = 'Rouge'
       and P.NP = puf2.NP and puf2.NF = puf1.NF and puf1.NP = puf.NP
       ```
    (b) ```
       select distinct NF from PUF
       where NP in
         ( select NP
           from PUF
       ```

```
                    where NF in
                    ( select NF
                      from PUF
                      where NP in
                      ( select NP
                        from P
                        where Couleur = 'Rouge' ) ) )
```

15.
```
select distinct F.Ville, NP, U.Ville
from PUF, U, F
where PUF.NF = F.NF and PUF.NU = U.NU
```

16.
```
select distinct F.Ville, NP, U.Ville
from PUF, U, F
where F.Ville <> U.Ville and PUF.NF = F.NF and PUF.NU = U.NU
```

17. (a)
```
select NP from P
where not exists
  ( select NU
    from U
    where Ville = 'Londres'
    and not exists
    ( select * from PUF
      where P.NP = PUF.NP and U.NU = PUF.NU ) )
```
Note : Pour tout NP sélectionné, il n'existe pas d'usine à Londres pour laquelle il n'existe pas de produit NP livré.

(b)
```
select distinct P.NP from P, PUF, U
where P.NP = PUF.NP and PUF.NU = U.NU
and U.Ville = 'Londres'
group by P.NP
having count(distinct PUF.NU) =
  (select count(NU) from U where Ville = 'Londres')
```

18.
```
select NF from F
where exists
  ( select NP
    from P
    where not exists
      ( select NU
        from U
        where not exists
        ( select *
          from PUF
          where F.NF = PUF.NF and U.NU = PUF.NU
          and P.NP = PUF.NP) ) )
```
Note : Pour tout fournisseur sélectionné, il n'existe pas d'usine qui ne soit pas livrée en produit NP du fournisseur NF.

19.
```
select NU from U
where not exists
  ( select * from PUF L1
    where L1.NF = 4 and not exists
      ( select * from PUF L2
        where U.NU=L2.NU and L1.NP=L2.NP and L2.NF=4 ) )
```
Note : pour toute usine selectionnée, il n'existe pas de produit du fournisseur 4 qui ne soit pas livré à l'usine par le fournisseur 4.

20.
```
select NU from U
```

```
    where NU not in
      ( select NU
        from PUF
        where NF <> 3 )

21. insert into F values (45, 'Alfred', 'sous-traitant', 'Chalon')

22. delete P where NP >= 100 and NP <= 199 and couleur = 'Noir'

23. update F
    set Ville = 'Nice'
    where NF = 1

24. update F
    set statut = 'sous-traitant'
    where Ville = 'Paris' or Ville = 'Lyon'

25. select count(distinct NU)
    from PUF
    where NF =1

26. select NP, NU, sum(Quantite)
    from PUF
    group by NP, NU

27. select distrinct NF
    from PUF L1, PUF L2
    where L1.NP=5 and L2.NP=9 and L1.NF=L2.NF
```