

A)

1)

```
SELECT nuwagon
```

```
FROM wagon
```

```
WHERE typewagon='frigo' AND capacite>10 AND nomgare='tours';
```

| NUWAGON | |
|---------|------|
| 1 | 1004 |
| 2 | 1106 |

2)

```
SELECT DISTINCT typewagon
```

```
FROM wagon w JOIN train t
```

```
ON w.nuwagon=t.nuwagon
```

```
WHERE nutrain=4002;
```

| TYPEWAGON | |
|-----------|---------|
| 1 | citerne |
| 2 | frigo |

3)

```
SELECT nuligne
```

```
FROM ligne l
```

```
WHERE nomgare='tours' AND rang!=1 AND rang!=(
```

```
SELECT MAX(rang)
```

```
FROM ligne
```

```
WHERE nuligne=l.nuligne);
```

| NULIGNE | |
|---------|----|
| 1 | 16 |

4)

```
SELECT nutrain
```

```
FROM trafic t JOIN reseau r
```

```
ON t.nuligne=r.nuligne
```

```
WHERE nomgareorigine='angers' AND nomgaredest='beziers' AND nujour='12/03/13';
```

| | NUTRAIN |
|---|---------|
| 1 | 4002 |
| 2 | 4051 |

5)

```
SELECT nuwagon
```

```
FROM trafic t JOIN reseau r ON t.nuligne=r.nuligne JOIN train tr ON tr.nutrain=t.nutrain
```

```
WHERE nomgareorigine='angers' AND nomgaredest='beziers' AND nujour='12/03/13';
```

| | NUWAGON |
|---|---------|
| 1 | 1104 |
| 2 | 1105 |
| 3 | 1106 |
| 4 | 1004 |
| 5 | 2019 |

6)

```
SELECT nuligne
```

```
FROM trafic
```

```
GROUP BY nuligne
```

```
HAVING COUNT(nuligne)=(
```

```
SELECT COUNT(DISTINCT nujour)
```

```
FROM trafic);
```

| | NULIGNE |
|---|---------|
| 1 | 10 |

7)

```
SELECT nomgare
```

```
FROM ligne
```

```
WHERE nuligne=10 AND rang=(
```

```
    SELECT MAX(rang)
```

```
    FROM ligne
```

```
    WHERE nuligne=10);
```

| | NOMGARE |
|---|---------|
| 1 | tours |

8)

```
SELECT SUM(capacite)
```

```
FROM (
```

```
    SELECT capacite
```

```
    FROM wagon w JOIN train t
```

```
    ON w.nuwagon=t.nuwagon
```

```
    WHERE etat='charge' AND nutrain=4002);
```

| | SUM(CAPACITE) |
|---|---------------|
| 1 | 45 |

9)

```
SELECT DISTINCT nomgarearrivee
```

```
FROM reseau
```

```
CONNECT BY PRIOR nomgarearrivee=nomgareorigine
```

```
START WITH nomgareorigine='angers';
```

| | NOMGAREARRIVEE |
|---|----------------|
| 1 | paris |
| 2 | bordeaux |
| 3 | toulouse |
| 4 | lyon |
| 5 | tours |
| 6 | beziers |

10)

```
SELECT DISTINCT nutrain, COUNT(nuwagon)
```

```
FROM train
```

```
GROUP BY nutrain;
```

| | NU... | COUNT(NUWAGON) |
|---|-------|----------------|
| 1 | 4002 | 3 |
| 2 | 4051 | 2 |

11)

```
SELECT DISTINCT nutrain
```

```
FROM train
```

```
GROUP BY nutrain
```

```
HAVING COUNT(nuwagon)>=2;
```

| | NUTRAIN |
|---|---------|
| 1 | 4002 |
| 2 | 4051 |

12)

```
CREATE VIEW view_train
```

```
AS (
```

```
    SELECT t.nutrain, t.nuwagon, typewagon, capacite
```

```
    FROM wagon w JOIN train t
```

```
    ON w.nuwagon=t.nuwagon);
```

| | NUTRAIN | NUWAGON | TYPEWAGON | CAPACITE |
|---|---------|---------|-----------|----------|
| 1 | 4051 | 1004 | frigo | 30 |
| 2 | 4002 | 1104 | citerne | 15 |
| 3 | 4002 | 1105 | frigo | 30 |
| 4 | 4002 | 1106 | frigo | 30 |
| 5 | 4051 | 2019 | plat | 20 |

B)

1)

```
SELECT table_name
```

```
FROM user_tables;
```

2)

```
SELECT owner, table_name
```

```
FROM all_tables
```

3)

```
SELECT constraint_name,
```

```
       DECODE(constraint_type, 'P', 'PRIMARY KEY', 'R', 'FOREIGN KEY', 'C', 'CHECK')
```

```
       AS constraint_type
```

```
FROM user_constraints;
```