

1. BDD

```
CREATE TABLE Region (  
  Id_Region INTEGER NOT NULL,  
  Nom_Region VARCHAR NOT NULL,  
  PRIMARY KEY (Id_Region)  
);
```

```
CREATE TABLE Commune (  
  Id_Commune VARCHAR(50) NOT NULL,  
  Nom_commune VARCHAR(50) NOT NULL,  
  Code_Departement VARCHAR(3) NOT NULL,  
  Id_Region INTEGER NOT NULL,  
  PRIMARY KEY (Id_Commune),  
  FOREIGN KEY (Id_Region) REFERENCES Region(Id_Region)  
);
```

```
CREATE TABLE Population (  
  Id_Population INTEGER NOT NULL,  
  Population_Totale VARCHAR(10) NOT NULL,  
  Id_Commune VARCHAR(50) NOT NULL,  
  PRIMARY KEY (Id_Population),  
  FOREIGN KEY (Id_Commune) REFERENCES Commune(Id_Commune)  
);
```

```
CREATE TABLE Bien (  
  Id_bien INTEGER NOT NULL,  
  No_voie INTEGER,  
  Type_Voie VARCHAR(5) NOT NULL,  
  Voie VARCHAR(50) NOT NULL,  
  Total_piece INTEGER NOT NULL,  
  Surface_Carrez FLOAT NOT NULL,  
  Surface_local INTEGER NOT NULL,  
  Type_local VARCHAR(50) NOT NULL,  
  Id_Commune VARCHAR(50) NOT NULL,  
  PRIMARY KEY (Id_bien),  
  FOREIGN KEY (Id_Commune) REFERENCES Commune(Id_Commune)  
);
```

```
CREATE TABLE Vente (  
  Id_Vente INTEGER NOT NULL,  
  Valeur INTEGER NOT NULL,  
  Date DATE NOT NULL,  
  Id_bien INTEGER NOT NULL,  
  PRIMARY KEY (Id_Vente),  
  FOREIGN KEY (Id_bien) REFERENCES Bien(Id_Bien)  
);
```

2. NBRE VENTE D'APPARTEMENT AU 1^{ER} SEMESTRE

```
SELECT  
  Bien.Type_local,
```

COUNT(DISTINCT Bien.Id_bien) AS NBRE_TOTAL

FROM

Bien

JOIN Vente **USING** (Id_bien)

WHERE

Bien.Type_local='Appartement' AND DATE BETWEEN "2020-01-01" AND "2020-06-30"

| | Type local | NBRE TOTAL |
|---|-------------|------------|
| 1 | Appartement | 31378 |

3. NBRE VENTE PAR REGION AU 1^{ER} SEMESTRE

SELECT Region.Nom_Region **AS** Region,

Count(DISTINCT Vente.Id_bien) AS NBRE_VENTE_REG

FROM Vente,

Bien,

Commune,

Region

WHERE Vente.Id_bien = Bien.Id_bien **AND**

Bien.Id_Commune = Commune.Id_Commune **AND**

Commune.Id_Region = Region.Id_Region **AND**

DATE BETWEEN "2020-01-01" **AND** "2020-06-30" **AND**

Bien.Type_local='Appartement'

GROUP BY Region.Nom_Region;

| | Region | NBRE VENTE REG |
|----|----------------------------|----------------|
| 1 | AUVERGNE RHONE ALPES | 3253 |
| 2 | BOURGOGNE FRANCHE COMTE | 376 |
| 3 | BRETAGNE | 983 |
| 4 | CENTRE VAL DE LOIRE | 696 |
| 5 | CORSE | 223 |
| 6 | GRAND EST | 984 |
| 7 | GUADELOUPE | 2 |
| 8 | GUYANE | 34 |
| 9 | HAUTS DE France | 1254 |
| 10 | ILE DE FRANCE | 13995 |
| 11 | LA REUNION | 44 |
| 12 | MARTINIQUE | 94 |
| 13 | NORMANDIE | 862 |
| 14 | NOUVELLE AQUITAINE | 1932 |
| 15 | OCCITANIE | 1640 |
| 16 | PAYS DE LA LOIRE | 1357 |
| 17 | PROVENCE ALPES COTE D AZUR | 3649 |

4. PROPORTION DES VENTES D'APPARTEMENT PAR LE NOMBRE DE PIECES

```

SELECT
Bien.Total_piece,
ROUND( CAST(COUNT(DISTINCT Vente.Id_Vente) AS FLOAT) /(SELECT
COUNT(DISTINCT Vente.Id_Vente) from Vente join Bien using (Id_bien) WHERE
Bien.Type_local='Appartement' )*100 ,3) AS PROPORTION

FROM
Vente
JOIN Bien USING (Id_bien)

GROUP BY
Bien.Total_piece;

```

| | Total piece | PROPORTION |
|----|-------------|------------|
| 1 | 0 | 0.105 |
| 2 | 1 | 21.671 |
| 3 | 2 | 32.029 |
| 4 | 3 | 30.493 |
| 5 | 4 | 17.637 |
| 6 | 5 | 5.325 |
| 7 | 6 | 1.176 |
| 8 | 7 | 0.312 |
| 9 | 8 | 0.089 |
| 10 | 9 | 0.041 |
| 11 | 10 | 0.013 |
| 12 | 11 | 0.003 |

5. 10 DEPARTEMENTS OU PRIX DU M2 EST ELEVE

```

SELECT
(Vente.Valeur/Bien.Surface_Carrez) AS PrixM2,
Commune.Code_Departement AS Departement

FROM
Vente
JOIN Bien USING (Id_Bien)
JOIN Commune USING (Id_Commune)

WHERE
Bien.Surface_Carrez !=0

GROUP BY
Commune.Code_Departement

ORDER BY
PrixM2 DESC
LIMIT
10;

```

| | PrixM2 | Departement |
|----|--------------------|-------------|
| 1 | 12074.580687184498 | 75 |
| 2 | 11969.532100108814 | 86 |
| 3 | 7735.119047619048 | 51 |
| 4 | 5367.409408057619 | 74 |
| 5 | 4372.500270241055 | 92 |
| 6 | 4174.403827465052 | 2A |
| 7 | 4156.908665105387 | 13 |
| 8 | 3721.3580866365614 | 95 |
| 9 | 3697.1830985915494 | 61 |
| 10 | 3520.2492211838003 | 56 |

6. PRIX MOYEN M2 MAISON ILE DE FRANCE

```

SELECT AVG(Vente.Valeur / Bien.Surface_Carrez) AS MOY_M2,
Region.Nom_Region
FROM
Bien,
Region
JOIN
Vente USING (
Id_Bien
)
WHERE Region.Nom_Region = 'ILE DE FRANCE' AND
Bien.Type_local = 'Maison';

```

| | MOY M2 | Nom Region |
|---|--------------------|---------------|
| 1 | 3302.3111244905444 | ILE DE FRANCE |

7. 10 APPARTEMENTS PLUS CHERES AVEC REGION ET M2

```

SELECT
Bien.Surface_Carrez AS M2,
Region.Nom_Region AS REGION,
Vente.Valeur AS PRIX

FROM
Vente
JOIN Bien USING (Id_Bien)
JOIN Commune USING (Id_Commune)
JOIN Region USING (Id_Region)

WHERE
Bien.Type_local='Appartement'

GROUP BY
Region.Nom_Region

```

ORDER BY

Bien.Surface_Carrez desc

LIMIT

10

| | M2 | REGION | PRIX |
|----|--------|-------------------------|--------|
| 1 | 173.47 | AUVERGNE RHONE ALPES | 535160 |
| 2 | 133.77 | CORSE | 558410 |
| 3 | 78.05 | OCCITANIE | 68000 |
| 4 | 77 | PAYS DE LA LOIRE | 122500 |
| 5 | 67.8 | GUYANE | 151000 |
| 6 | 64 | BOURGOGNE FRANCHE COMTE | 57000 |
| 7 | 63.1 | CENTRE VAL DE LOIRE | 53000 |
| 8 | 63 | GRAND EST | 71000 |
| 9 | 54 | MARTINIQUE | 48000 |
| 10 | 51.47 | BRETAGNE | 142500 |

8. TAUX D'EVOLUTION NBRE VENTES 1^{ER} ET 2ND TRIMESTRE**SELECT**

Bien.Surface_Carrez AS M2,
Region.Nom_Region AS REGION,
Vente.Valeur AS PRIX

FROM

Vente

JOIN Bien **USING** (Id_Bien)

JOIN Commune **USING** (Id_Commune)

JOIN Region **USING** (Id_Region)

WHERE

Bien.Type_local='Appartement'

GROUP BY

Region.Nom_Region

ORDER BY

Bien.Surface_Carrez desc

LIMIT

10

| | TX EVOL TRIMESTRIEL |
|---|---------------------|
| 1 | 4.576 |

9. CLASSEMENT DES REGIONS PAR M2 DES APPARTEMENTS DE PLUS DE 4 PIECES**SELECT**

(Vente.Valeur/Bien.Surface_Carrez) AS M2,
 Region.Nom_Region,
 Bien.Total_piece AS NBRE_PIECE

FROM

Bien,Vente,Region,Commune

WHERE

Vente.Id_bien=Bien.Id_bien AND Bien.Id_Commune=Commune.Id_Commune AND
 Commune.Id_Region=Region.Id_Region AND Bien.Type_local='Appartement' AND
 Bien.Total_piece>"4"

GROUP BY

Region.Nom_Region

ORDER BY

M2 desc

| | M2 | Nom Region | NBRE PIECE |
|----|--------------------|----------------------------|------------|
| 1 | 4174.403827465052 | CORSE | 5 |
| 2 | 3866.928553891481 | PROVENCE ALPES COTE D AZUR | 5 |
| 3 | 3321.0497932770086 | NORMANDIE | 5 |
| 4 | 3298.547763263519 | OCCITANIE | 6 |
| 5 | 2510.0401606425703 | LA REUNION | 5 |
| 6 | 2230.954493598682 | ILE DE FRANCE | 5 |
| 7 | 2171.407775823376 | AUVERGNE RHONE ALPES | 6 |
| 8 | 1831.8549942151947 | BRETAGNE | 5 |
| 9 | 1710.6549364613882 | HAUTS DE France | 5 |
| 10 | 1590.909090909091 | PAYS DE LA LOIRE | 5 |
| 11 | 1471.6270308453027 | CENTRE VAL DE LOIRE | 5 |
| 12 | 1351.4464700499755 | NOUVELLE AQUITAINE | 5 |
| 13 | 1007.9853383950779 | BOURGOGNE FRANCHE COMTE | 5 |
| 14 | 892.076263774707 | GRAND EST | 5 |
| 15 | 573.4800447594182 | MARTINIQUE | 5 |

10. LISTE DES COMMUNES AYANT 50 VENTES AU 1^{ER} TRIMESTRE

WITH VENTE_TRIMESTRE1 AS

(SELECT

Commune.Nom_commune AS COMMUNE,

COUNT (DISTINCT Vente.Id_Vente) AS TRIMESTRE1

FROM

Vente,Bien,Commune

WHERE

Vente.Id_bien=Bien.Id_bien AND Bien.Id_Commune=Commune.Id_Commune AND
 Vente.Date BETWEEN "2020-01-01" AND "2020-03-30"

GROUP BY

Commune.Nom_commune

)

SELECT

Commune,

TRIMESTRE1

FROM

VENTE_TRIMESTRE1

WHERE

TRIMESTRE1>=50

ORDER BY

TRIMESTRE1 DESC

| | Commune | TRIMESTRE1 | | | |
|----|----------------------|------------|----|-----------------------|----|
| 1 | PARIS 17 | 225 | | | |
| 2 | PARIS 15 | 211 | | | |
| 3 | PARIS 18 | 208 | | | |
| 4 | NICE | 169 | | | |
| 5 | PARIS 11 | 167 | | | |
| 6 | PARIS 16 | 164 | | | |
| 7 | BORDEAUX | 156 | | | |
| 8 | PARIS 14 | 145 | | | |
| 9 | PARIS 20 | 127 | 29 | VINCENNES | 68 |
| 10 | NANTES | 119 | 30 | LILLE | 67 |
| 11 | PARIS 19 | 115 | 31 | MARSEILLE 9EME | 66 |
| 12 | PARIS 12 | 110 | 32 | RUEIL-MALMAISON | 66 |
| 13 | PARIS 10 | 109 | 33 | MONTREUIL | 64 |
| 14 | GRENOBLE | 106 | 34 | ANGERS | 63 |
| 15 | PARIS 09 | 103 | 35 | LA CIOTAT | 62 |
| 16 | BOULOGNE-BILLANCOURT | 99 | 36 | NIMES | 62 |
| 17 | PARIS 13 | 93 | 37 | PARIS 08 | 62 |
| 18 | PARIS 07 | 87 | 38 | SETE | 62 |
| 19 | PARIS 06 | 85 | 39 | PARIS 02 | 61 |
| 20 | ASNIERES-SUR-SEINE | 81 | 40 | PARIS 04 | 60 |
| 21 | MARSEILLE 8EME | 81 | 41 | RENNES | 59 |
| 22 | COURBEVOIE | 80 | 42 | LEVALLOIS-PERRET | 58 |
| 23 | PARIS 05 | 79 | 43 | TOULON | 58 |
| 24 | PARIS 03 | 78 | 44 | SAINT-MAUR-DES-FOSSES | 56 |
| 25 | TOULOUSE | 78 | 45 | AJACCIO | 53 |
| 26 | ANTIBES | 76 | 46 | VERSAILLES | 53 |
| 27 | MARSEILLE 4EME | 72 | 47 | PUTEAUX | 52 |
| 28 | MARSEILLE 1ER | 71 | 48 | ISSY-LES-MOULINEAUX | 50 |

11. DIFFERENCE EN % DU PRIX M2 ENTRE APPARTEMENT 2 ET 3 PIECES

WITH

APPART2 **AS** (SELECT CAST (COUNT (DISTINCT Vente.Valeur/
Bien.Surface_Carrez) **AS** float)**AS** PRXM2

FROM

Bien,
Vente

WHERE

Vente.Id_bien=Bien.Id_bien AND Bien.Type_local='Appartement' AND Bien.Total_piece=
2),

APPART3 **AS** (SELECT COUNT (DISTINCT Vente.Valeur/ Bien.Surface_Carrez) **AS**
PRXM2BIS

FROM

Bien,
Vente

WHERE

Vente.Id_bien=Bien.Id_bien AND Bien.Type_local='Appartement' AND Bien.Total_piece=
3)

SELECT

PRXM2,
PRXM2BIS,

ROUND((PRXM2-PRXM2BIS)/PRXM2BIS)*100 ,3) **AS**
DIFFERENCE_POURCENTAGE

FROM

APPART2,APPART3

| | PRXM2 | PRXM2BIS | DIFFERENCE POURCENTAGE |
|---|-------|----------|------------------------|
| 1 | 9666 | 8921 | 8.351 |

12. MOYENNES VALEURS FONCIERES TOP 3 DES COMMUNES DES DEPARTEMENTS (6,13,33,59,69)

WITH MOYENNE_V **AS**(

SELECT

AVG(VENTE.VALEUR) **AS** MOY,
NOM_COMMUNE,
CODE_DEPARTEMENT,
RANK() **OVER (PARTITION BY CODE_DEPARTEMENT ORDER BY**
AVG(VENTE.VALEUR) **DESC) AS** CLASSEMENT

FROM

VENTE

JOIN BIEN **USING**(ID_BIEN)

JOIN COMMUNE **USING** (ID_COMMUNE)

WHERE

COMMUNE.CODE_DEPARTEMENT **IN**(6,13,33,59,69)

GROUP BY

COMMUNE.NOM_COMMUNE

ORDER BY

COMMUNE.CODE_DEPARTEMENT)

SELECT

MOYENNE_V.MOY ,
MOYENNE_V.NOM_COMMUNE,
MOYENNE_V.CODE_DEPARTEMENT,
CLASSEMENT

FROM

MOYENNE_V

WHERE

CLASSEMENT<=3

| | MOY | Nom commune | Code Departemen | CLASSEMENT |
|----|--------------------|-----------------------|-----------------|------------|
| 1 | 330000 | GIGNAC-LA-NERTHE | 13 | 1 |
| 2 | 314425 | SAINT SAVOURNIN | 13 | 2 |
| 3 | 313416.875 | CASSIS | 13 | 3 |
| 4 | 549500.6363636364 | LEGE-CAP-FERRET | 33 | 1 |
| 5 | 335000 | VAYRES | 33 | 2 |
| 6 | 307435.92727272725 | ARCACHON | 33 | 3 |
| 7 | 433202 | BERSEE | 59 | 1 |
| 8 | 408550 | CYSOING | 59 | 2 |
| 9 | 322250 | HALLUIN | 59 | 3 |
| 10 | 968750 | SAINT-JEAN-CAP-FERRAT | 6 | 1 |
| 11 | 655000 | EZE | 6 | 2 |
| 12 | 476898.125 | MOUANS-SARTOUX | 6 | 3 |
| 13 | 485300 | VILLE SUR JARNIOUX | 69 | 1 |
| 14 | 455217.26086956525 | LYON 2EME | 69 | 2 |
| 15 | 426968.25 | LYON 6EME | 69 | 3 |