

1. Nombre total d'appartements vendus au 1er semestre 2020

```
SELECT COUNT(*) FROM vente
```

```
JOIN bien ON bien.id_bien = vente.id_bien
```

```
WHERE type_local = "appartement" AND date BETWEEN '2020/01/01' AND '2020/06/30';
```

```
mysql> SELECT COUNT(*) FROM vente
->
-> JOIN bien ON bien.id_bien = vente.id_bien
-> WHERE type_local = "appartement" AND date BETWEEN '2020/01/01' AND '2020/06/30';
+-----+
| COUNT(*) |
+-----+
|      31378 |
+-----+
```

2. Le nombre de ventes d'appartement par région pour le 1er semestre 2020

```
SELECT nom_region, COUNT(*) AS nombre_appartement_vendu FROM vente
```

```
JOIN bien on bien.id_bien = vente.id_bien
```

```
JOIN commune on commune.id_commune = bien.id_commune
```

```
JOIN region on region.id_region = commune.id_region
```

```
WHERE type_local = 'appartement'
```

```
GROUP BY nom_region
```

```
ORDER BY nombre_appartement_vendu DESC;
```

```
mysql> SELECT nom_region, COUNT(*) as nombre_appartement_vendu FROM vente
->
-> JOIN bien on bien.id_bien = vente.id_bien
-> JOIN commune on commune.id_commune = bien.id_commune
-> JOIN region on region.id_region = commune.id_region
->
-> WHERE type_local = 'appartement'
-> GROUP BY nom_region
-> ORDER BY nombre_appartement_vendu DESC;
```

nom_region	nombre_appartement_vendu
Île-de-France	13995
Provence-Alpes-Côte d'Azur	3649
Auvergne-Rhône-Alpes	3253
Nouvelle-Aquitaine	1932
Occitanie	1640
Pays de la Loire	1357
Hauts-de-France	1254
Grand Est	984
Bretagne	983
Normandie	862
Centre-Val de Loire	696
Bourgogne-Franche-Comté	376
Corse	223
Martinique	94
La Réunion	44
Guyane	34
Guadeloupe	2

3. Le nombre de ventes d'appartement par région pour le 1er semestre 2020

```
SELECT piece,  
COUNT(*) AS nombre_appartement,  
(100 * COUNT(*)/(SELECT COUNT(*) FROM vente  
JOIN bien ON bien.id_bien = vente.id_bien  
WHERE type_local = "appartement" )) as proportion FROM vente
```

```
JOIN bien ON bien.id_bien = vente.id_bien  
WHERE type_local = "appartement"
```

```
GROUP BY piece  
ORDER BY proportion desc;
```

```
mysql> SELECT piece,  
-> COUNT(*) AS nombre_appartement,  
-> (100 * COUNT(*)/(SELECT COUNT(*) FROM vente  
-> JOIN bien ON bien.id_bien = vente.id_bien  
-> WHERE type_local = "appartement" )) as proportion FROM vente  
->  
-> JOIN bien ON bien.id_bien = vente.id_bien  
-> WHERE type_local = "appartement"  
->  
-> GROUP BY piece  
-> ORDER BY proportion desc;
```

piece	nombre_appartement	proportion
2	9785	31.1843
3	8964	28.5678
1	6739	21.4768
4	4460	14.2138
5	1114	3.5503
6	204	0.6501
7	54	0.1721
0	30	0.0956
8	17	0.0542
9	8	0.0255
10	2	0.0064
11	1	0.0032

4. Liste des 10 départements où le prix du mètre carré est le plus élevé

```
SELECT ROUND(AVG(valeur/surface_local),2) AS 'prix du metre carre' ,code_departement FROM bien
```

```
JOIN vente on vente.id_bien = bien.id_bien
```

```
JOIN commune on commune.id_commune = bien.id_commune
```

```
GROUP BY code_departement
```

```
ORDER BY AVG(valeur/surface_local) DESC
```

```
LIMIT 10;
```

```
mysql> SELECT ROUND(AVG(valeur/surface_local),2) AS 'prix du metre carre' ,code_departement
FROM bien
->
-> JOIN vente on vente.id_bien = bien.id_bien
-> JOIN commune on commune.id_commune = bien.id_commune
->
-> GROUP BY code_departement
-> ORDER BY AVG(valeur/surface_local) DESC
-> LIMIT 10;
```

prix du metre carre	code_departement
12121.62	75
7415.28	92
5395.98	94
4681.76	6
4363.01	93
4149.56	74
4126.19	78
4063.83	69
3905.71	2A
3838.74	33

5. Prix moyen du mètre carré d'une maison en Île-de-France

```
SELECT ROUND(AVG(valeur/surface_local),2) AS "prix moyen du m²" FROM vente
```

```
JOIN bien on vente.id_bien = bien.id_bien
```

```
JOIN commune on commune.id_commune = bien.id_commune
```

```
JOIN region on region.id_region = commune.id_region
```

```
WHERE type_local = 'maison' AND nom_region LIKE 'ile-de-France';
```

```
mysql> SELECT ROUND(AVG(valeur/surface_local),2) AS "prix moyen du m²" FROM vente
-> JOIN bien on vente.id_bien = bien.id_bien
-> JOIN commune on commune.id_commune = bien.id_commune
-> JOIN region on region.id_region = commune.id_region
-> WHERE type_local = 'maison' AND nom_region LIKE 'ile-de-France';
```

prix moyen du m²
3997.71

6. Liste des 10 appartements les plus chers avec la région et le nombre de mètres carrés

```
SELECT surface_local, valeur, type_local, nom_region from bien
```

```
JOIN vente on vente.id_bien = bien.id_bien
```

```
JOIN commune on commune.id_commune = bien.id_commune
```

```
JOIN region on region.id_region = commune.id_region
```

```
WHERE type_local = 'appartement'
```

```
ORDER BY valeur DESC
```

```
LIMIT 10;
```

```
mysql> SELECT surface_local, valeur, type_local, nom_region from bien
->
-> JOIN vente on vente.id_bien = bien.id_bien
-> JOIN commune on commune.id_commune = bien.id_commune
-> JOIN region on region.id_region = commune.id_region
->
-> WHERE type_local = 'appartement'
->
-> ORDER BY valeur DESC
-> LIMIT 10;
```

surface_local	valeur	type_local	nom_region
10	9000000	Appartement	Île-de-France
62	8600000	Appartement	Île-de-France
289	8577713	Appartement	Île-de-France
42	7620000	Appartement	Île-de-France
200	7600000	Appartement	Île-de-France
143	7535000	Appartement	Île-de-France
357	7420000	Appartement	Île-de-France
241	7200000	Appartement	Île-de-France
310	7050000	Appartement	Île-de-France
76	6600000	Appartement	Île-de-France

```
10 rows in set (0.13 sec)
```

```
mysql> WITH vT1 AS
-> (SELECT count(*) as T1 from vente
-> WHERE date BETWEEN '2020/01/01' AND '2020/03/31'),
-> vT2 AS
-> (SELECT count(*) as T2 from vente
-> WHERE date BETWEEN '2020/04/01' AND '2020/06/30')
->
-> SELECT(100 * ((T2 - T1 )/ T1)) AS 'taux evolution % T1-T2'
->
-> FROM vT1, vT2;
+-----+
| taux evolution % T1-T2 |
+-----+
|          3.6779 |
+-----+
```

7. Taux d'évolution du nombre de ventes entre le premier et le second trimestre de 2020

```
WITH vT1 AS
(SELECT count(*) as T1 from vente
WHERE date BETWEEN '2020/01/01' AND '2020/03/31'),
vT2 AS
(SELECT count(*) as T2 from vente
WHERE date BETWEEN '2020/04/01' AND '2020/06/30')

SELECT(100 * ((T2 - T1 )/ T1)) AS 'taux evolution % T1-T2'

FROM vT1, vT2;
```

```
mysql> WITH vT1 AS
-> (SELECT count(*) as T1 from vente
-> WHERE date BETWEEN '2020/01/01' AND '2020/03/31'),
-> vT2 AS
-> (SELECT count(*) as T2 from vente
-> WHERE date BETWEEN '2020/04/01' AND '2020/06/30')
->
-> SELECT(100 * ((T2 - T1 )/ T1)) AS 'taux evolution % T1-T2'
->
-> FROM vT1, vT2;
+-----+
| taux evolution % T1-T2 |
+-----+
|          3.6779 |
+-----+
```

8. Le classement des régions par rapport au prix au mètre carré des appartements de plus de 4 pièces

```
SELECT nom_region, round(avg(valeur/surface_local),4) AS 'prix m² des appt de + de 4 pieces' FROM  
region
```

```
JOIN commune ON commune.id_region = region.id_region  
JOIN bien ON bien.id_commune = commune.id_commune  
JOIN vente ON vente.id_bien = bien.id_bien
```

```
WHERE piece > 4 AND type_local = 'appartement'  
GROUP BY nom_region  
ORDER BY 'prix m² des appt de + de 4 pieces' desc;
```

```
mysql> SELECT nom_region, round(avg(valeur/surface_local),4) AS 'prix m² des appt de + de 4  
pieces' FROM region  
->  
-> JOIN commune ON commune.id_region = region.id_region  
-> JOIN bien ON bien.id_commune = commune.id_commune  
-> JOIN vente ON vente.id_bien = bien.id_bien  
->  
-> WHERE piece > 4 AND type_local = 'appartement'  
-> GROUP BY nom_region  
-> ORDER BY 'prix m² des appt de + de 4 pieces' desc;
```

nom_region	prix m² des appt de + de 4 pieces
Auvergne-Rhône-Alpes	2768.8654
Hauts-de-France	2203.6065
Provence-Alpes-Côte d'Azur	3005.2440
Grand Est	1313.2631
Occitanie	2096.4166
Normandie	1994.2456
Nouvelle-Aquitaine	2510.1773
Centre-Val de Loire	1428.5112
Bretagne	2271.8622
Bourgogne-Franche-Comté	1068.9256
Corse	3046.4711
Pays de la Loire	2186.7174
Île-de-France	8003.3931
Martinique	564.2202
La Réunion	3659.8262

9. Liste des communes ayant eu au moins 50 ventes au 1er trimestre

```
SELECT nom_commune,count(id_vente) AS "nombre de vente au T1 2020" from commune
```

```
JOIN bien on bien.id_commune = commune.id_commune
```

```
JOIN vente on vente.id_bien = bien.id_bien
```

```
WHERE date BETWEEN '2020/01/01' AND '2020/03/31'
```

```
GROUP BY nom_commune
```

```
HAVING COUNT(id_vente) >= 50
```

```
ORDER BY count(id_vente);
```

```
mysql> SELECT nom_commune,count(id_vente) AS "nombre de vente au T1 2020" from commune
->
-> JOIN bien on bien.id_commune = commune.id_commune
-> JOIN vente on vente.id_bien = bien.id_bien
->
-> WHERE date BETWEEN '2020/01/01' AND '2020/03/31'
-> GROUP BY nom_commune
-> HAVING COUNT(id_vente) >= 50
-> ORDER BY count(id_vente);
```

nom_commune	nombre de vente au T1 2020
ISSY LES MOULINEAUX	50
PUTEAUX	53
AJACCIO	54
VERSAILLES	54
ST MAUR DES FOSSES	56
TOULON	59
LEVALLOIS PERRET	59
PARIS 4	60
RENNES	61
PARIS 2	61
PARIS 8	62
SETE	62
LA CIOTAT	62
NIMES	63
ANGERS	64
MONTREUIL	65
MARSEILLE 9	66
LILLE	67
RUEIL MALMAISON	68
VINCENNES	68
MARSEILLE 1	71
MARSEILLE 4	72
ANTIBES	77
TOULOUSE	78
PARIS 5	79
PARIS 3	79
COURBEVOIE	80
MARSEILLE 8	81
ASNIERES SUR SEINE	81
PARIS 6	86
PARIS 7	87
PARIS 13	94
BOULOGNE BILLANCOURT	99
PARIS 9	106
GRENOBLE	106
PARIS 10	109
PARIS 12	110
PARIS 19	116
NANTES	119
PARIS 20	127
PARIS 14	146
BORDEAUX	157
PARIS 16	165
PARIS 11	169
NICE	173
PARIS 18	209
PARIS 15	215
PARIS 17	228

```
48 rows in set, 65535 warnings (0.11 sec)
```

10. Différence en pourcentage du prix au mètre carré entre un appartement de 2 pièces et un appartement de 3 pièces

```
WITH vF2 AS
(SELECT AVG(valeur/surface_local) AS F2 FROM vente
JOIN bien on vente.id_bien = bien.id_bien
WHERE type_local = 'appartement' AND piece = 2 ),

vF3 AS
(SELECT AVG(valeur/surface_local) AS F3 FROM vente
JOIN bien on vente.id_bien = bien.id_bien
WHERE type_local = 'appartement' AND piece = 3 )

SELECT F2,F3, ROUND((100 * ((F3 - F2 )/ F2)),3) AS 'différence % F2-F3'
FROM vF2,vF3;
```

```
mysql> WITH vF2 AS
-> (SELECT AVG(valeur/surface_local) AS F2 FROM vente
-> JOIN bien on vente.id_bien = bien.id_bien
-> WHERE type_local = 'appartement' AND piece = 2 ),
-> vF3 AS
-> (SELECT AVG(valeur/surface_local) AS F3 FROM vente
-> JOIN bien on vente.id_bien = bien.id_bien
-> WHERE type_local = 'appartement' AND piece = 3 )
->
-> SELECT F2,F3, ROUND((100 * ((F3 - F2 )/ F2)),3) AS 'différence % F2-F3'
-> FROM vF2,vF3;
```

F2	F3	différence % F2-F3
4927.42148751	4285.80087023	-13.021

1 row in set (0.07 sec)

11. Les moyennes de valeurs foncières pour le top 3 des communes des départements 6, 13, 33, 59 et 69

```

WITH CLASSEMENT AS
(
SELECT code_departement, nom_commune, round(AVG(valeur),2) AS 'moyenne des valeurs
foncieres' ,
ROW_NUMBER() OVER (PARTITION BY code_departement ORDER BY round(AVG(valeur),2) DESC) as
TOP3
FROM vente

JOIN bien on vente.id_bien = bien.id_bien
JOIN commune on commune.id_commune = bien.id_commune
WHERE code_departement IN (6,13,33,59,69)
group by nom_commune

)

SELECT *
FROM CLASSEMENT
WHERE top3 < 4
;

```

```

mysql> WITH CLASSEMENT AS
-> (
-> SELECT code_departement, nom_commune, round(AVG(valeur),2) AS 'moyenne des valeurs foncieres' ,
-> ROW_NUMBER() OVER (PARTITION BY code_departement ORDER BY round(AVG(valeur),2) DESC) as TOP3
-> FROM vente
->
-> JOIN bien on vente.id_bien = bien.id_bien
-> JOIN commune on commune.id_commune = bien.id_commune
-> WHERE code_departement IN (6,13,33,59,69)
-> group by nom_commune
->
-> )
->
-> SELECT *
-> FROM CLASSEMENT
-> WHERE top3 < 4
-> ;

```

code_departement	nom_commune	moyenne des valeurs foncieres	TOP3
13	GIGNAC LA NERTHE	330000.00	1
13	ST SAVOURNIN	314425.00	2
13	CASSIS	313416.88	3
33	LEGE CAP FERRET	549500.64	1
33	VAYRES	335000.00	2
33	ARCACHON	307435.93	3
59	BERSEE	433202.00	1
59	CYSOING	408550.00	2
59	HALLUIN	322250.00	3
6	ST JEAN CAP FERRAT	968750.00	1
6	EZE	655000.00	2
6	MOUANS SARTOUX	476898.13	3
69	VILLE SUR JARNIOUX	485300.00	1
69	LYON 2	455217.26	2
69	LYON 6	426968.25	3

15 rows in set, 251 warnings (0.04 sec)