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

```
SELECT count(id_vente) AS 'NbrAppartements'
FROM vente
JOIN local ON vente.id_local=local.id_local
WHERE date_mutation >'2020-01-01' AND date_mutation <'2020-07-01' AND
type_local = 'Appartement'
```

	NbrAppartements
1	31345

2. Proportion des ventes d'appartements par le nombre de pièces.

```
SELECT
nb_pieces,
round((count(id_vente) * 100.0/(SELECT count(id_vente) FROM vente JOIN local ON
vente.id_local=local.id_local WHERE type_local = 'Appartement')),2) AS ratio
FROM vente
JOIN local ON vente.id_local=local.id_local
WHERE type_local = 'Appartement'
GROUP BY nb_pieces
```

	nb pieces	ratio
1	0	0.1
2	1	21.47
3	2	31.16
4	3	28.59
5	4	14.22
6	5	3.55
7	6	0.65
8	7	0.17
9	8	0.05
10	9	0.03
11	10	0.01
12	11	0

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

SELECT
SUBSTR(code_postal,1,2) AS dep,
round(avg(valeur_fonciere/surface_carrez),2) as prix
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
GROUP BY dep
ORDER BY prix DESC
LIMIT 10

	dep	prix
1	75	12093.16
2	92	7297.51
3	94	5428.31
4	74	4780.97
5	06	4760.06
6	93	4398.23
7	78	4275.13
8	69	4099.87
9	20	4087.37
10	33	3804.73

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

SELECT ROUND(AVG(valeur_fonciere/surface_carrez)) AS 'prix au m²'
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
WHERE type_local='Maison' AND SUBSTR(code_postal,1,2) IN
('75','77','78','91','92','93','94','95')

	prix au m²
1	3764

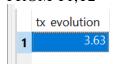## 5. Liste des 10 appartements les plus chers avec le département et le nombre de mètres carrés.

SELECT id_local, valeur_fonciere,SUBSTR(code_postal,1,2) AS département,surface_carrez
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
WHERE type_local = 'Appartement'
ORDER BY valeur_fonciere DESC
LIMIT 0,10

	id local	valeur fonciere	département	surface carrez
1	32252	9000000	75	9,1
2	21817	8600000	91	64
3	29778	8577713	75	20,55
4	32410	7620000	75	42,77
5	29829	7600000	75	253,3
6	29501	7535000	75	139,9
7	31950	7420000	75	360,95
8	32112	7200000	75	595
9	29332	7050000	75	122,56
10	29492	6600000	75	79,38

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

WITH T1 AS (
SELECT count(id_vente) AS nb1 FROM vente
WHERE date_mutation >= '2020-01-01' AND date_mutation < '2020-04-01'
),
T2 AS (
SELECT count(id_vente) AS nb2 FROM vente
WHERE date_mutation > '2020-03-31' AND date_mutation < '2020-07-01'
)

SELECT round((cast(nb2 AS float)-cast(nb1 AS float))/nb1 *100,2) AS tx_evolution
FROM T1,T2

	tx evolution
1	3.63

7. Liste des communes où le nombre de ventes a augmenté d'au moins 20% entre le premier et le second trimestre de 2020

```
WITH T1 AS (

SELECT ville as v1, count(id_vente) as nb1 from vente v
JOIN local l on l.id_local = v.id_local
JOIN commune c on c.id_commune = l.id_commune
WHERE date_mutation >= '2020-01-01' AND date_mutation < '2020-04-01'
GROUP BY ville
),

T2 AS (

SELECT ville as v2, count(id_vente) as nb2 from vente v
JOIN local l on l.id_local = v.id_local
JOIN commune c on c.id_commune = l.id_commune
WHERE date_mutation >= '2020-04-01' AND date_mutation < '2020-07-01'
GROUP BY ville
)

SELECT v1, round((nb2-nb1)/nb1*100,2) as ratio FROM T1
JOIN T2 on v1 = v2
WHERE round((nb2-nb1)/nb1*100,2) >=20
```

	v1	ratio
1	ABBEVILLE	300
2	ABLON-SUR-SEINE	100
3	AGDE	100
4	AIRE-SUR-L'ADOUR	400
5	ALENCON	100
6	AMPUIS	100
7	ANCENIS-SAINT-GEREON	100
8	ANGLET	100
9	ANNEMASSE	100
10	APT	200
11	ARCUEIL	100

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

```
WITH F2 AS (
SELECT
round(avg(valeur_fonciere/surface_carrez),2) as P1
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
WHERE nb_pieces = 2 AND type_local = 'Appartement'
),
F3 AS (
SELECT
round(avg(valeur_fonciere/surface_carrez),2) as P2
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
WHERE nb_pieces = 3 AND type_local = 'Appartement'
)

SELECT round((P2-P1)/P1*100,2) AS Différence
FROM F2,F3
```

	Différence
1	-12.77

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

```
WITH M1 AS (
SELECT SUBSTR(code_postal,1,2)as dep,ville,avg(valeur_fonciere) AS moy_val
FROM vente
JOIN local ON vente.id_local=local.id_local
JOIN commune ON local.id_commune=commune.id_commune
WHERE SUBSTR(code_postal,1,2) IN('06','13','33','59','69')
GROUP BY dep,ville
)
SELECT dep,ville,round(moy_val,2) AS moyenne FROM (
SELECT dep,ville,moy_val,rank() OVER(PARTITION BY dep ORDER BY moy_val DESC)
AS rang
FROM M1) AS resultat
WHERE rang <=3
```

	dep	ville	moyenne
1	06	SAINT-JEAN-CAP-FERRAT	968750
2	06	EZE	655000
3	06	MOUANS-SARTOUX	476898.1
4	13	GIGNAC-LA-NERTHE	330000
5	13	SAINT SAVOURNIN	314425
6	13	CASSIS	313416.88
7	33	LEGE-CAP-FERRET	549500.64
8	33	VAYRES	335000
9	33	ARCACHON	307435.93
10	59	BERSEE	433202
11	59	CYSOING	408550
12	59	HALLUIN	322250
13	69	VILLE SUR JARNIOUX	485300
14	69	LYON 2EME	455217.27
15	69	LYON 6EME	426968.25