DATA ANALYSIS

Question 1 – Total apartments sold in the first half of 2020.

```sql
--Question 1
SELECT
count(p.id_bien) AS "Total apartments sold in the first half of 2020"
FROM
    sales s, Properties p, Property_types t
WHERE
     s.id_bien=p.id_bien
     AND p.code_type_local = t.code_type_local
     AND t.type_local = "Appartement"
     AND s.date >= '2020-01-01'
     AND s.date <= '2020-06-30'
```

Grid view | Form view

Total rows loaded: 1

	Total apartments sold in the first half of 2020
1	31378

Question 2 – Number of apartments sold in the first half of 2020

```sql
SELECT
    r.nom_region as Region,
    count(*) as "Number of apartments sold in the first half of 2020"
--Question 2
FROM
    regions r, departements d, communes c, Properties p, Property_types t, Sales s
WHERE
    r.code_region=d.code_region
    AND c.code_departement=d.code_departement
    AND p.id_codedep_codecommune=c.id_codedep_codecommune
    AND t.code_type_local=p.code_type_local
    AND p.id_bien=s.id_bien
    AND t.type_local = 'Appartement'
    AND s.date >= '2020-01-01'
    AND s.date <= '2020-06-30'
GROUP BY
    r.nom_region
ORDER BY
    "Number of apartments sold in the first half of 2020" DESC
```

Grid view | Form view

Total rows loaded: 17

	Region	Number of apartments sold in the first half of 2020
1	Ile-de-France	13995
2	Provence-Alpes-Côte d'Azur	3649
3	Auvergne-Rhône-Alpes	3253
4	Nouvelle-Aquitaine	1932
5	Occitanie	1640
6	Pays de la Loire	1357
7	Hauts-de-France	1254
8	Grand Est	984
9	Bretagne	983
10	Normandie	862
11	Centre-Val de Loire	696
12	Bourgogne-Franche-Comté	376
13	Corse	223
14	Martinique	94
15	La Réunion	44
16	Guyane	34
17	Guadeloupe	2

Question 3 – Proportion of total apartment sales by number of rooms

Query | History

```sql
--Question 3
SELECT
    p.total_piece AS "Number of rooms",
    count(s.id_vente) AS "Apartments sold",
    round(count(s.id_vente) * 100.0 /
    (select count(*) from Sales s, Properties p, Property_types t
        WHERE s.id_bien=p.id_bien
        AND p.code_type_local=t.code_type_local
        AND t.type_local='Appartement'),4)
        AS "Percentage of total apartment sales"
FROM
    Sales s, Properties p, Property_types t
WHERE
     s.id_bien=p.id_bien
     AND p.code_type_local=t.code_type_local
     AND t.type_local = 'Appartement'
GROUP BY
    "Number of rooms"
```

Grid view | Form view

Total rows loaded: 12

	Number of rooms	Apartments sold	Percentage of total apartment sales
1	0	30	0.0956
2	1	6739	21.4768
3	2	9783	31.1779
4	3	8966	28.5742
5	4	4460	14.2138
6	5	1114	3.5503
7	6	204	0.6501
8	7	54	0.1721
9	8	17	0.0542
10	9	8	0.0255
11	10	2	0.0064
12	11	1	0.0032

Question 4 – List of the top 10 most expensive departments in terms of price per m^2

```sql
--Question 4
SELECT
d.nom_departement AS Departement,
round(sum(s.valeur)/sum(p.surface_carrez),2) AS "Average price per m2"
FROM
Sales s, Properties p, departements d, communes c
WHERE
    s.id_bien=p.id_bien
    AND p.id_codedep_codecommune=c.id_codedep_codecommune
    AND c.code_departement=d.code_departement
GROUP BY
d.nom_departement
ORDER BY
    "Average price per m2" DESC
LIMIT
    10
```

Grid view | Form view

Total rows loaded: 10

	Departement	Average price per m2
1	Paris	11898.72
2	Hauts-de-Seine	7238.19
3	Val-de-Marne	4831.37
4	Alpes-Maritimes	4587.83
5	Haute-Savoie	4159.22
6	Seine-Saint-Denis	4065.39
7	Yvelines	4002.16
8	Rhône	3893.5
9	Corse-du-Sud	3752.76
10	Gironde	3567.93

Question 5 – Average prix per m^2 of a house in Île-de-France.

Query | History

```
1  --Question 5
2  SELECT
3      r.nom_region AS 'Region',
4      round(sum(s.valeur)/sum(p.surface_carrez),0) AS "Average price per m2 - House"
5  FROM
6      Properties p, departements d, communes c, Sales s, regions r, Property_types t
7  WHERE
8      r.code_region=d.code_region
9      AND d.code_departement=c.code_departement
10     AND c.id_codedep_codecommune=p.id_codedep_codecommune
11     AND s.id_bien=p.id_bien
12     AND t.code_type_local=p.code_type_local
13     AND t.type_local = 'Maison'
14     AND d.code_region = 11
```

Grid view | Form view

Total rows loaded: 1

	Region	Average price per m2 - House
1	Ile-de-France	3676

Question 6 – List of the 10 most expensive apartments with the region they are in and the number of metres squared.

```sql
--Question 6
SELECT
    s.valeur AS Price,
    p.no_voie as "Street Number",
    p.btq AS "B/T/Q",
    p.type_voie AS "Type of street",
    p.voie AS "Street name",
    p.code_postal AS "Post code",
    r.nom_region AS "Region",
    p.surface_carrez AS "Metres squared"
FROM
regions r, departements d, communes c, Properties p, Sales s, Property_types t
WHERE
    r.code_region=d.code_region
    AND d.code_departement=c.code_departement
    AND c.id_codedep_codecommune=p.id_codedep_codecommune
    AND s.id_bien=p.id_bien
    AND t.code_type_local=p.code_type_local
    AND t.type_local = 'Appartement'
ORDER BY
    s.valeur DESC
LIMIT
    10
```

Grid view | Form view

Total rows loaded: 10

	Price	Street Number	B/T/Q	Type of street	Street name	Post code	Region	Metres squared
1	9000000.0	6		BD	SUCHET	75016	Ile-de-France	9.1
2	8600000	16		CHE	DE LA CAVIGNON	91100	Ile-de-France	64
3	8577713	104		RUE	DU BAC	75007	Ile-de-France	20.55
4	7620000	33		RUE	LEMERCIER	75017	Ile-de-France	42.77
5	7600000	72		RUE	D ASSAS	75006	Ile-de-France	253.3
6	7535000	8		RUE	SAINT HYACINTHE	75001	Ile-de-France	139.9
7	7420000	36		AV	GEORGES MANDEL	75016	Ile-de-France	360.95
8	7200000	23		BD	DE BEAUSEJOUR	75016	Ile-de-France	595
9	7050000	26		RUE	CAMBON	75001	Ile-de-France	122.56
10	6600000	108		RUE	SAINT HONORE	75001	Ile-de-France	79.38

Question 7 – Change in number of sales between the 1st and 2nd trimesters of 2020

Query | History

```
1 --Question 7
2 SELECT
3 round((((SELECT COUNT(id_vente) FROM Sales WHERE date >= '2020-04-01')*1.0- (SELECT COUNT(id_vente)FROM Sales WHERE date <= '2020-03-31'))/
4 (SELECT COUNT(id_vente)FROM Sales WHERE date <= '2020-03-31')),4)
5     as "Change in number of sales between the 1st and 2nd trimesters of 2020"
```

Grid view | Form view

Total rows loaded: 1

	Change in number of sales between the 1st and 2nd trimesters of 2020
1	0.0368

Question 8 – Ranking of regions based on the price per square metre of apartments with more than 4 rooms.

Query | History

```sql
--Question 8
SELECT
    r.nom_region AS Region,
    round(sum(s.valeur)/sum(p.surface_carrez),0) AS "Average price per m2"
FROM
regions r, departements d, communes c, Properties p, Sales s, Property_types t
WHERE
    r.code_region=d.code_region
    AND d.code_departement=c.code_departement
    AND c.id_codedep_codecommune=p.id_codedep_codecommune
    AND s.id_bien=p.id_bien
    AND t.code_type_local=p.code_type_local
    AND p.total_piece > 4
    AND t.type_local = 'Appartement'
GROUP BY
    r.nom_region
ORDER BY
    "Average price per m2" DESC
```

Grid view | Form view

Total rows loaded: 15

	Region	Average price per m2
1	Ile-de-France	9171
2	La Réunion	3470
3	Corse	3445
4	Provence-Alpes-Côte d'Azur	3167
5	Auvergne-Rhône-Alpes	2932
6	Nouvelle-Aquitaine	2545
7	Pays de la Loire	2495
8	Bretagne	2326
9	Hauts-de-France	2280
10	Occitanie	2182
11	Normandie	2119
12	Grand Est	1475
13	Centre-Val de Loire	1459
14	Bourgogne-Franche-Comté	1125
15	Martinique	573

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

Query | History

```sql
--Question 9
SELECT
    c.nom_commune AS Commune,
    count(s.id_vente) AS 'Number of sales'
FROM
    communes c, Properties p, Sales s
WHERE
    c.id_codedep_codecommune=p.id_codedep_codecommune
    AND s.id_bien=p.id_bien
    AND s.date <= '2020-03-31'
GROUP BY
    c.nom_commune
HAVING
    count(s.id_vente) >= 50
ORDER BY
    count(s.id_vente) desc
```

Grid view | Form view

Total rows loaded: 48

	Commune	Number of sales
1	Paris 17e Arrondissement	228
2	Paris 15e Arrondissement	215
3	Paris 18e Arrondissement	209
4	Nice	173
5	Paris 11e Arrondissement	169
6	Paris 16e Arrondissement	165
7	Bordeaux	157
8	Paris 14e Arrondissement	146
9	Paris 20e Arrondissement	127
10	Nantes	119
11	Paris 19e Arrondissement	116
12	Paris 12e Arrondissement	110
13	Paris 10e Arrondissement	109
14	Paris 9e Arrondissement	106
15	Grenoble	106
16	Boulogne-Billancourt	99
17	Paris 13e Arrondissement	94
18	Paris 7e Arrondissement	87
19	Paris 6e Arrondissement	86
20	Marseille 8e Arrondissement	81

21	Asnières-sur-Seine	81
22	Courbevoie	80
23	Paris 5e Arrondissement	79
24	Paris 3e Arrondissement	79
25	Toulouse	78
26	Antibes	77
27	Marseille 4e Arrondissement	72
28	Marseille 1er Arrondissement	71
29	Vincennes	68
30	Rueil-Malmaison	68
31	Lille	67
32	Marseille 9e Arrondissement	66
33	Montreuil	65
34	Angers	64
35	Nîmes	63
36	Sète	62
37	Paris 8e Arrondissement	62
38	La Ciotat	62
39	Rennes	61
40	Paris 2e Arrondissement	61
41	Paris 4e Arrondissement	60
42	Toulon	59
43	Levallois-Perret	59
44	Saint-Maur-des-Fossés	56
45	Versailles	54
46	Ajaccio	54
47	Puteaux	53
48	Issy-les-Moulineaux	50

Question 10 - Difference in percentage of the price per square metre of a 2 and a 3 room apartment

Query History

```
1  --Question 10
2  SELECT
3      round(((SELECT sum(s.valeur)/sum(p.surface_carrez)*1.0
4          FROM Properties p, Sales s ,Property_types t
5          WHERE p.id_bien = s.id_bien
6              AND p.code_type_local=t.code_type_local
7              AND p.total_piece = 2 AND t.type_local = 'Appartement') -
8          (SELECT sum(s.valeur)/sum(p.surface_carrez)
9          FROM properties p, sales s, Property_types t
10         WHERE p.id_bien = s.id_bien
11             AND p.code_type_local=t.code_type_local
12             AND p.total_piece = 3
13             AND t.type_local = 'Appartement')) /
14         (SELECT sum(s.valeur)/sum(p.surface_carrez)
15         FROM Properties p, Sales s, Property_types t
16         WHERE p.id_bien = s.id_bien
17             AND p.code_type_local=t.code_type_local
18             AND p.total_piece = 2
19             AND t.type_local = 'Appartement'),4)*100
20         AS "Difference in percentage of the price per square metre of a 2 and a 3 room apartment"
```

Grid view Form view

1 Total rows loaded: 1

	Difference in percentage of the price per square metre of a 2 and a 3 room apartment
1	12.52

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

Query History

```sql
--Question 11
SELECT * FROM
    (SELECT
        c.code_departement AS "Department code",
        c.nom_commune AS "Commune name",
        round(avg(s.valeur),0) AS "Average price"
    FROM
        communes c, Sales s, Properties p
    WHERE
        p.id_bien=s.id_bien
        AND c.id_codedep_codecommune=p.id_codedep_codecommune
        AND c.code_departement = '06'
    GROUP BY
        c.nom_commune
    ORDER BY
        "Average price" DESC
    LIMIT 3)
UNION
SELECT * FROM
    (SELECT
        c.code_departement AS "Code de departement",
        c.nom_commune AS "Commune name",
        round(avg(s.valeur),0) AS "Average price"
    FROM
        communes c, Sales s, Properties p
    WHERE
        p.id_bien=s.id_bien
        AND c.id_codedep_codecommune=p.id_codedep_codecommune
        AND c.code_departement = '13'
GROUP BY
        c.nom_commune
    ORDER BY
        "Average price" DESC
    LIMIT 3)
UNION
SELECT * FROM
```

```sql
    (SELECT
        c.code_departement AS "Code de departement",
        c.nom_commune AS "Commune name",
        round(avg(s.valeur),0) AS "Average price"
    FROM
        communes c, Sales s, Properties p
    WHERE
        p.id_bien=s.id_bien
        AND c.id_codedep_codecommune=p.id_codedep_codecommune
        AND c.code_departement = '33'
    GROUP BY
        c.nom_commune
    ORDER BY
        "Average price" DESC
    LIMIT 3)
UNION
SELECT * FROM
    (SELECT
        c.code_departement AS "Code de departement",
        c.nom_commune AS "Commune name",
        round(avg(s.valeur),0) AS "Average price"
    FROM
        communes c, Sales s, Properties p
    WHERE
        p.id_bien=s.id_bien
        AND c.id_codedep_codecommune=p.id_codedep_codecommune
        AND c.code_departement = '59'
    GROUP BY
        c.nom_commune
    ORDER BY
        "Average price" DESC
    LIMIT 3)
UNION
SELECT * FROM
    (SELECT
        c.code_departement AS "Code de departement",
        c.nom_commune AS "Commune name",
        round(avg(s.valeur),0) AS "Average price"
    FROM
        communes c, Sales s, Properties p
    WHERE
        p.id_bien=s.id_bien
        AND c.id_codedep_codecommune=p.id_codedep_codecommune
        AND c.code_departement = '69'
    GROUP BY
        c.nom_commune
    ORDER BY
        "Average price" DESC
    LIMIT 3)
        ORDER BY
    "Code de departement", "Average price" DESC
```

Grid view | Form view

1 | Total rows loaded: 15

	Department code	Commune name	Average price
1	06	Saint-Jean-Cap-Ferrat	968750
2	06	Eze	655000
3	06	Mouans-Sartoux	476898
4	13	Gignac-la-Nerthe	330000
5	13	Saint-Savournin	314425
6	13	Cassis	313417
7	33	Lège-Cap-Ferret	549501
8	33	Vayres	335000
9	33	Arcachon	307436
10	59	Bersée	433202
11	59	Cysoing	408550
12	59	Halluin	322250
13	69	Ville-sur-Jarnioux	485300
14	69	Lyon 2e Arrondissement	455217
15	69	Lyon 6e Arrondissement	426968

Question 12 – The 20 communes with the most transactions per 1000 people for communes that have populations of more than 10,000.

```
1  --Question 12
2  SELECT
3      c.nom_commune AS Commune,
4      c.population AS Population,
5      count(s.id_vente) AS Sales,
6      round((count(s.id_vente)*1.0/c.population),5) * 1000 AS "Transactions per 1000 people"
7  FROM
8      communes c, Properties p, Sales s
9  WHERE
10      c.id_codedep_codecommune=p.id_codedep_codecommune
11      AND p.id_bien=s.id_bien
12      AND c.population >= 10000
13 GROUP BY
14     c.nom_commune
15 ORDER BY
16 "Transactions per 1000 people" DESC
17 LIMIT 20
```

Grid view | Form view

Total rows loaded: 20

	Commune	Population	Sales	Transactions per 1000 people
1	Paris 2e Arrondissement	21735	127	5.84
2	Paris 1er Arrondissement	16055	79	4.92
3	Paris 3e Arrondissement	34306	161	4.69
4	Arcachon	11898	55	4.62
5	La Baule-Escoublac	16797	77	4.58
6	Paris 4e Arrondissement	29390	120	4.08
7	Roquebrune-Cap-Martin	13041	52	3.99
8	Paris 8e Arrondissement	36250	139	3.83
9	Sanary-sur-Mer	17160	60	3.5
10	Paris 9e Arrondissement	60563	208	3.43
11	La Londe-les-Maures	10776	37	3.43
12	Paris 6e Arrondissement	41171	139	3.38
13	Saint-Cyr-sur-Mer	11725	38	3.24
14	Chantilly	11178	35	3.13
15	Saint-Mandé	22576	69	3.06
16	Pornichet	11440	35	3.06
17	Paris 10e Arrondissement	86863	264	3.04
18	Menton	30981	91	2.94
19	Saint-Hilaire-de-Riez	11501	33	2.87
20	Vincennes	50230	141	2.81