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# DATA BASE MANAGEMENT

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**Final Report**

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**Task 5**

"The questions (10) of the 4th task and the results of their execution:

**Question 1**

Find the code, address, floor, surface area, and city of all properties that have an area less than 150 square meters and a proposed selling price greater than 50,000 Euros.

**code:**

```
SELECT P_code, surface_area, street, StreetNumber, city
FROM Properties
WHERE surface_area<150 and suggested_sale_price>50000;
```

**resulting table:**

P_code	surface_area	street	StreetNumber	city
1235	124.5	Ermou	5	Patras
2345	100.3	Giannitson	34	Ioannina

Table 1: Properties with surface area less than 150 sq.m and suggested sale price greater than 50000 EUR.

**Question 2**

Find the name and all phone numbers of the customers of the company 'Kaputnik' who have visited at least one property located in Patras.

**code:**

```
SELECT name, description
FROM client, phonenumbers, visited, Properties
WHERE Properties.P_code=visited.P_code and client.C_AFM=visited.C_AFM and phonenumbers.C_AFM=client.C_AFM and city='Patras';
```

**resulting table:**

Name	Description
Xristos	261044556 - Home line
Dimitris	6968793545 / 6987043444 - Mobile
Konstantinos	6987040567 - Mobile
Aristotelis	261055455 / 6943667343 - Home line / Mobile

Table 2: Customer Information

**Question 3**

Find the code, surface area, and address of the properties that have been advertised on at least one website.

**code:**

```
SELECT street, StreetNumber, published.P_code, surface_area
FROM Properties, published, advertisement, website
WHERE Properties.P_code=advertisement.P_code and advertisement.P_code=published.P_code and website.W_URL=published.W_URL;
```

**resulting table:**

Street	StreetNumber	P_code	Surface_area
Akrotiriou	56	2456	340
Panepistimiou	12	1234	55
Giannitson	34	2345	100.3

Table 3: Properties Advertised on Websites

**Question 4**

Find the name and mobile phone number of the employee who manages the property with the highest selling price.

**code:**

```
SELECT name, MobilePhoneNumber
```

```
FROM employee, Properties, contract
```

```
WHERE employee.E_AFM=Properties.E_AFM and contract.P_code=Properties.P_code
and SellingPrice=( select max(SellingPrice) from contract, Properties );
```

**resulting table:**

Name	Mobile Phone Number
Giannis	69543234

Table 4: Employee Information

**Question 5**

Find the average selling price of properties that have been sold and belong to the type '5-bedroom Studio Apartment' and are located in Athens.

**code:**

```
SELECT SellingPrice
```

```
FROM contract, Properties
```

```
WHERE contract.P_code=Properties.P_code and T_description="Studio Apartment"
and T_Nrooms=5 and city='Athens' and SellingPrice=( select avg(SellingPrice) from contract );
```

**resulting table:**

The code does not return any results since the example instances we have used as input do not contain any 5-bedroom studio apartments located in Athens.

**Question 6**

Find the code and address of all the properties that have been rented.

**code:**

```
SELECT Properties.P_code, street, StreetNumber
```

```
FROM Properties, contract
```

```
WHERE Properties.P_code=contract.P_code and IS_RentalContract=1 and RenatIfinishingDate < #9/6/2022#;
```

**resulting table:**

The code does not return any results since the example instances we have used as input do not contain any properties with an existing rental contract(that has not expired)(as of the date the assignment was completed).

**Question 7**

For each customer of the company 'Kaputnik', display how many properties they have visited (for each customer, display their name and address).

**code:**

```
SELECT name, address, count(*)
FROM client, visited
WHERE client.C_AFM=visited.C_AFM
GROUP BY address, name
ORDER BY count(*) DESC;
```

**resulting table:**

Name	Address	Number of Properties Visited
Xristos	Aratou 23	2
Aristotelis	Patreos 30	1
Dimitris	Konstantinopoleos 4	1
Konstantinos	Agiou Nikolaou 7	1

Table 5: Number of Properties Visited by Customers

**Question 8**

Find the names, Tax Identification Numbers (AFM), and addresses of customers who have neither purchased nor rented properties from 'Kaputnik'.

**code:**

```
SELECT C_AFM, name, address
FROM client
WHERE C_AFM not in ( select client.C_AFM from client, contract where client.C_AFM=contract.C_AFM );
```

**resulting table:**

C_AFM	name	address
111118	Konstantinos	Agiou Nikolaou 7

Table 6: Inactive members of client data base

**Question 9**

Find the type of property (mentioning its description and number of rooms) that has the highest purchase preferences from the clients.

**code:**

```
SELECT type.T_description, type.T_Nrooms, count(C_AFM)
FROM preference, type
WHERE type.T_description=preference.T_description and type.T_Nrooms=preference.T_Nrooms
GROUP BY type.T_description, type.T_Nrooms
HAVING count(C_AFM)=( select max(C) from( select count(C_AFM) as C from preference, type where type.T_description=preference.T_description and type.T_Nrooms=preference.T_Nrooms group by type.T_description, type.T_Nrooms ) );
```

**resulting table:**

T_description	T_Nrooms	Expr1002
Apartment	3	2

**Question 10**

Find the names and addresses of customers for whom all preferences for purchasing a type of property can be satisfied by the available (unsold or unrented) properties managed by the company 'Kaputnik'.

**code:**

```
SELECT DISTINCT name, address  
FROM client, preference
```

```
WHERE client.C_AFM=preference.C_AFM and not exists( select Properties.P_code from  
Properties, preference where Properties.T_description=preference.T_description and Prop-  
erties.T_Nrooms=preference.T_Nrooms and Properties.P_code not in( select contract.P_code  
from Properties, contract where Properties.P_code=contract.P_code ) );
```

**resulting table:**

The code does not return any results since the example instances we have used as input do not contain any customers for whom all preferences can be satisfied by any available property.