

Homework 4

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1 Question One

The number of super keys here is the cardinality of the set of all sets of attributes that contain at least the clientId. In this case, that's:

1. (clientId)
2. (clientId, name)
3. (clientId, phone)
4. (clientId, address)
5. (clientId, name, phone)
6. (clientId, name, address)

7. (clientId, phone, address)
8. (clientId, name, phone, address)

Therefore there are eight super keys.

2 Question Two

There is only one primary key which is the collection of (clientId, empId, packageId).

3 Question Three

Salesman has two candidate keys empId and name, if we assume that each salesperson has a unique name. If not, then empId is the only candidate key (and also in this design, the primary key!).

4 Question Four

```
select clientId, name, phone, address from Client where name="Peter Smith";
```

5 Question Five

```
select videoCode from Video where videoLength < 2;
```

6 Question Six

Making the assumption that all addresses are formatted as "<street no> <street address>". For example "12345 John Blvd":

```
select siteCode, type, address, phone from Site where right(address, locate(' ', address) - 1) = '12345';
```

7 Question Seven

Assuming a siteCode of one:

```
select administrator.empId, administrator.name, administrator.gender from administrators where siteCode = 1;
```