```sql
-- 1.Get the cities of agents booking an order for a customer whose cid is 'c006'.
Select city
From Agents
Where Exists (Select *
              From orders
              Where cid = 'c006'
              );
```

Data Output | Explain | Messages | History

city text
New York
Newark
Tokyo
New York
Duluth
Dallas
London

```
-- 2.Get the distinct ids of products ordered through any agent who takes at least one
-- order from a customer in Kyoto, sorted by pid from highest to lowest. (This is not the
-- same as asking for ids of products ordered by customers in Kyoto.)
Select distinct *
from Products
Where Exists (Select aid
              From Orders
              Where Exists (Select *
                            From Customers
                            Where city = 'Kyoto'
                            )
              )
Order By pid DESC;
```

Data Output | Explain | Messages | History

pid character	name text	city text	quantity integer	priceusd numeric ...
p08	eraser	Newark	200600	1.25
p07	case	Newark	100500	1
p06	trapper	Dallas	123100	2
p05	pencil	Dallas	221400	1
p04	pen	Duluth	125300	1
p03	razor	Duluth	150600	1
p02	brush	Newark	203000	0.5
p01	comb	Dallas	111400	0.5

```
23  -- 3. Get the ids and names of customers who did not place an order through agent a01.
24  Select name, cid
25  From Customers
26  Where Exists (Select *
27                From Orders
28                Where aid <> 'a01'
29                );
```

Data Output | Explain | Messages | History

name text	cid character
Tiptop	c001
Tyrell	c002
Allied	c003
ACME	c004
Weyland	c005
ACME	c006

```
31  -- 4. Get the ids of customers who ordered both product p01 and p07.
32  Select cid
33  From Orders
34  Where pid = (Select pid
35               From Products
36               Where Name = 'comb' OR Name = 'case'
37               ); -- Couldn't Figure this one out
```

Data Output | Explain | Messages | History

```
ERROR:  more than one row returned by a subquery used as an expression
********** Error **********

ERROR: more than one row returned by a subquery used as an expression
SQL state: 21000
```

```sql
-- 5. Get the ids of products not ordered by any customers who placed any order through agent a08 in pid order from highest to lowest.
select pid
From Products
Where NOT Exists ( Select cid
              From Orders
              Where Exists ( Select aid
                             From Orders
                             Where aid = ( Select aid
                                           From Agents
                                           Where name = 'Bond'
                                           )
                             )
              )
Order By pid Desc;
```

Data Output | Explain | Messages | History

pid character
p08
p07
p06
p05
p04
p03
p02
p01

```sql
-- 6. Get the name, discount, and city for all customers who place orders through agents in Tokyo or New York.
select name, discount, city
From Customers
Where Exists ( Select *
               From Orders
               Where Exists (Select aid
                             From Agents
                             Where city = 'New York' OR city = 'Tokyo'
                             )
               );
```

Data Output | Explain | Messages | History

name text	discount numeric ...	city text
Tiptop	10	Duluth
Tyrell	12	Dallas
Allied	8	Dallas
ACME	8.5	Duluth
Weyland	0	Risa
ACME	0	Kyoto

```
65  -- 7. Get all customers who have the same discount as that of any customers in Duluth or London
66  select *
67  From Customers
68  Where discount = (Select discount
69                    From Customers
70                    Where city = 'Duluth' or city = 'London'
71                    ); -- Unsure of how to handle
```

Data Output | Explain | Messages | History

```
ERROR:  more than one row returned by a subquery used as an expression
********** Error **********

ERROR: more than one row returned by a subquery used as an expression
SQL state: 21000
```

```
-- 8. Tell me about check constraints: What are they? What are they good for? What's the
-- advantage of putting that sort of thing inside the database? Make up some examples
-- of good uses of check constraints and some examples of bad uses of check constraints.
-- Explain the differences in your examples and argue your case

-- Check Constraints are good for ensuring that data value is within a certain range; The data is checked and either True or False is Returned
-- If you want to guarantee that the data is less than, greater than a certain value, this can be done with Check Constraints
-- The advantage of putting it in a database is to make sure that the Data stored is consistant and conforms to a certain standard
--
-- A good example would be
-- Create Table ClassicMovies (
--      name text,
--      year int,
--      CHECK (year < 1990));
-- This Constraint will ensure any film in this "ClassicMovies" table is from before 1990
--
-- A bad example would be
-- Create Table ClassicMovies (
--      name text,
--      productionyear int,
--      publishyear int
--      CHECK (publishyear > productionyear));
-- This Constraint is bad, because it eliminates the possibility of inserting a movie published in the same year it was produced.
```