1.

```
select firstName, lastName
from customer
where income > 80000
order by lastname, firstName
```

2.

```
select b.branchname, a.accnumber, a.balance
from Account a, Branch b
where a.branchNumber = b.branchnumber and
balance > 115000 and budget > 2000000
order by b.branchname, a.accnumber
```

3.

```
select c.firstName, c.lastName, c.income
from Customer c
where income > any
(select income * 2
from Customer
where firstName = 'Charles' and lastName = 'Smith')
order by c.lastName, c.firstname
```

4.

```
select c.customerid, c.income, a.accnumber, a.branchNumber
from customer c, owns o, Account a
where c.customerid = o.customerid and o.accNumber = a.accNumber and
c.income > 90000 and c.customerid in
(select customerid
      from owns o, account a, branch b
      where o.accnumber = a.accnumber and
      a.branchNumber = b.branchNumber and
      (b.branchName = 'London' or b.branchName = 'Latveria'))
order by c.customerid, a.accnumber
```

5.

```
select o.customerID, a.type, o.accnumber, a.balance
from owns o, Account a
where o.accnumber = a.accnumber and
(a.type = 'sav' or a.type = 'bus')
and o.customerID in
(select o1.customerID
from owns o1, Account a1
where o1.accnumber = a1.accnumber and a1.type = 'sav'
intersect
select o2.customerID
from owns o2, Account a2
where o2.accnumber = a2.accnumber and a2.type = 'bus')
order by o.customerID, a.type, o.accnumber
```

6.

```
select e.sin, b.branchname, e.salary, e.salary - man.salary as boss_comp
from Employee e, Branch b, Employee man
where e.branchNumber = b.branchNumber and
```

```
b.managerSIN = man.sin
order by e.salary - man.salary desc
```

7.

```
select distinct o.customerid
from owns o, account a, branch b
where o.accnumber = a.accnumber and b.branchnumber = a.branchnumber and
b.branchname = 'berlin' and o.customerid not in
(  select o1.customerid
   from owns o1, owns o2
   where o1.accnumber = o2.accnumber and
   o2.customerid in
    ( select olondon.customerid
      from owns olondon, account alondon, branch blondon
      where olondon.accnumber = alondon.accnumber and
      alondon.branchnumber = blondon.branchnumber and blondon.branchname =
    'London'
    )
 )
 order by o.customerid
```

8.

```
select e.sin, e.lastname, e.salary, b.branchname
from employee e left outer join branch b on e.sin = b.managersin
where e.salary > 80000
order by e.salary desc
```

9.

```
select e.sin, e.lastname, e.salary, b.branchname
from employee e, branch b
where e.sin = b.managersin and e.salary > 80000
union
select e.sin, e.lastname, e.salary, null
from employee e, Branch b
where e.salary > 80000 and e.branchNumber = b.branchNumber and
e.sin <> managerSin
order by e.salary desc
```

10.

```
select c.customerid, c.lastname, c.birthdate
from customer c where not exists
(
   (select distinct ara.branchnumber
    from customer ar, owns aro, account ara
    where ar.customerid = aro.customerid and aro.accnumber = ara.accnumber
    and ar.firstname = 'adam' and ar.lastname = 'rivera')
   except
   (select distinct a.branchnumber
    from owns o, account a
    where o.accnumber = a.accnumber and o.customerid = c.customerid)
)
order by c.customerid
```

11.

```
select e.sin, e.firstname, e.lastname, e.salary
```

```
from Employee e inner join Branch b on e.branchNumber = b.branchNumber
where b.branchName = 'berlin' and e.salary =
(select max(berlin.salary)
from (select salary from Employee e inner join Branch b
on e.branchNumber = b.branchNumber
where b.branchName = 'berlin') as berlin)
```

12.

```
select sum(salary) as sum_salaries
from branch b, employee e
where b.branchnumber = e.branchnumber and b.branchname = 'latveria'
```

13.

```
select COUNT(distinct e.firstname) as count_names, count(e.sin) as count_sin
from Employee e inner join Branch b on e.branchnumber = b.branchNumber
where b.branchName = 'london'
```

14.

```
select b.branchname, min(salary)as min_salary,
max(salary)as max_salary, avg(salary)as avg_salary
from Branch b, Employee e
where b.branchnumber = e.branchnumber
group by b.branchname
order by b.branchname
```

15.

```
select c.customerid, c.firstname, c.lastname
from customer c where c.customerid in
(select b2.customerid from
(select distinct o.customerid, a.branchnumber
 from owns o, Account a
 where o.accNumber = a.accnumber) as b2
 group by b2.customerid
 having count(*) >= 2)
 order by c.customerid
```

16.

```
select young.inc as young, old.inc as old
from (select avg(income) as inc from customer
where year(getdate()) - YEAR(birthdate) > 50) as old,
(select avg(income) as inc from customer
where year(getdate()) - YEAR(birthdate) < 50) as young
```

17.

```
select c.customerid, c.lastname, c.firstName, c.income, avg(a.balance) as
avg_balance
from customer c, owns o, account a
where c.customerid = o.customerid and o.accnumber = a.accnumber
and (c.lastname like 'Jo%s%' or c.firstname like 'A%[aeiou]_') --'%e_s%'
group by c.customerid, c.lastname, c.firstname, c.income
having count(*) > 2
order by c.customerid
```

18.

```
select a.accnumber, a.balance, sum(t.amount) as sum, a.balance - sum(t.amount)
as delta
from account a, transactions t, branch b
where a.accnumber = t.accnumber and b.branchnumber = a.branchnumber
and b.branchname = 'new york'
group by a.accnumber, a.balance
having count(*) >= 10
order by a.accnumber
```

19.

```
select b.branchname, a.type, avg(T.amount) as avg_amount
from account a, branch b, Transactions T
where a.branchnumber = b.branchnumber and b.branchnumber in
(select a1.branchnumber
 from account a1
 group by a1.branchnumber
 having count(*) >= 50)
group by b.branchname, a.type
order by b.branchname, a.type
```

20.

```
select b.branchname, a.type, a.accnumber, t.transnumber, t.amount
from  Branch b, Account a, Transactions t
where b.branchNumber = a.branchNumber and t.accNumber = a.accNumber and
a.accNumber in

( select sub.accNumber from
  (
    select a1.accnumber, a1.type, avg(t1.amount) as average
    from Account a1, Transactions t1
    where a1.accNumber = t1.accnumber
    group by a1.accNumber, a1.type
    having AVG(t1.amount) >
      (
      select AVG(t2.amount)*3
      from Account a2, Transactions t2
      where a2.accNumber = t2.accnumber and a2.type = a1.type
      )
  ) as sub
)
order by b.branchname, a.type, a.accnumber, t.transnumber
```