Project_1_QuestionAnswer

By Hanzhi Yang

1. Question 1

```
select movie
from appeared_in
where star = 'Edward Norton'
```

movie
'Fight Club'
'The Illusionist'
'The Incredible Hulk'

2. Question 2

```
select star
from appeared_in
where star <> 'Brad Pitt' and movie in (
    select movie
    from appeared_in
    where star = 'Brad Pitt')
```

star
'Edward Norton'
'Angelina Jolie'
'George Clooney'
'Matt Damon'
'Vincent Cassel'

3. Question 3

```
select sum(how_much)
from made_money
where movie in (
    select movie
    from appeared_in
    where star = 'Tom Hanks' and movie in (
        select movie
        from appeared_in
        where star = 'Rita Wilson'
        )
    )
```

Totoal money is : **51444736.00**

4. Question 4

```
select star
from in_couple
where star <> 'Ben Affleck' and couple_num in (
    select couple_num
    from divorced
    where couple_num in (
        select couple_num
        from in_couple
        where star = 'Ben Affleck'
    )
)
```

star
Jennifer Garner

5. Question 5

```
select star
from in_couple
```

```
where couple_num in (
    select couple_num
    from married natural join divorced
)
```

star
'Angelina Jolie'
'Brad Pitt'

6. Question 6

```
select A.star, B.star
from appeared_in A, appeared_in B, in_couple AC, in_couple BC, m
where
    A.movie = B.movie  and
    A.star > B.star and # keypoint
    AC.couple_num = BC.couple_num and
    AC.star = A.star and
    BC.star = B.star and
    AC.couple_num = married.couple_num and
    A.movie = made_money.movie and
    married.day > made_money.day_opened
group by A.star, B.star

/* or */
with star_star_num ( A, B, couple_num) as (
select A.star, B.star, min(AC.couple_num)
from appeared_in A, appeared_in B, in_couple AC, in_couple BC, m
where
    A.movie = B.movie  and
    A.star > B.star and # keypoint
    AC.couple_num = BC.couple_num and
    AC.star = A.star and
    BC.star = B.star and
    AC.couple_num = married.couple_num and
    A.movie = made_money.movie and
    married.day > made_money.day_opened
group by A.star, B.star
)
select A, B
from star_star_num
```

star 1	star 2
'Brad Pitt'	'Angelina Jolie'
'Jennifer Garner'	'Ben Affleck'
'Tom Hanks'	'Rita Wilson'
'Vincent Cassel'	'Monica Bellucci'

7. Question 7

```
with
star_freq(star, freq) as (
    select star, count(movie)
    from appeared_in
    group by star
)
select star
from star_freq
where freq in (
    select max(freq)
    from star_freq
)
```

star
'Brad Pitt'
'Matt Damon'
'Tom Hanks'

8. Question 8

```
with married_times(A, B, times) as (
select A.star, B.star, count(A.couple_num) as marriedtimes
from in_couple A, in_couple B
where
    A.couple_num = B.couple_num and
    A.star > B.star
group by A.star, B.star)
```

```
select A, B
from married_times
where times > 1
```

star 1	star 2
'Brad Pitt'	'Angelina Jolie'
'Tom Hanks'	'Rita Wilson'

9. Question 9

```
select star
from in_couple natural join divorced
group by star
having ( count(couple_num) > 1)
```

star
'Angelina Jolie'
'Brad Pitt'
'Tom Hanks'

10. Question 10

```
with star_avg(star, aver) as (
    select star, avg(how_much) as aver
    from appeared_in natural join made_money
    group by star
)
select star from star_avg
where aver = (select max(aver) from star_avg)
```

star
'Scarlett Johansson'

11. Credit Question

```
with couple_pair(couple_num, DayBegin, DayEnd) as (
select married.COUPLE_NUM, married.DAY as DayMarried, divorced.D
from married left join divorced
on married.COUPLE_NUM = divorced.COUPLE_NUM
)
select A_star, B_star from (
    select A.star as A_star, B.star as B_star, avg(made_money.HO
    from in_couple A, in_couple B, couple_pair, appeared_in AA,
    where
        A.star > B.star and
        A.couple_num = B.couple_num and
        A.couple_num = couple_pair.couple_num and
        A.star = AA.star and
        B.star = BA.star and
        AA.movie = BA.movie and
        AA.movie = made_money.MOVIE and
        (isnull(couple_pair.dayEnd) or made_money.DAY_OPENED < c
        made_money.DAY_OPENED > couple_pair.daybegin
        group by A.star, B.star
) as myalias
order by average desc
limit 1

/* or */
with pair_average (A_star, B_star, average) as (
    select A.star as A_star, B.star as B_star, avg(made_money.HO
    from in_couple A, in_couple B, appeared_in AA, appeared_in B
    (select married.COUPLE_NUM, married.DAY as DayBegin, divorce
        from married left join divorced
        on married.COUPLE_NUM = divorced.COUPLE_NUM) couple_pair
    where
        A.star > B.star and
        A.couple_num = B.couple_num and
        A.couple_num = couple_pair.couple_num and
        A.star = AA.star and
        B.star = BA.star and
        AA.movie = BA.movie and
        AA.movie = made_money.MOVIE and
        (isnull(couple_pair.dayEnd) or made_money.DAY_OPENED < c
        made_money.DAY_OPENED > couple_pair.daybegin
        group by A.star, B.star
)
```

```
select A_star, B_star from pair_average
where average = (select max(average) from pair_average)
```

star 1	star 2
'Tom Hanks'	'Rita Wilson'