1. Films where you can find Humphrey Bogart and Lauren Bacall playing together?

```sql
select m.title, m.country, m.year_released
from (select c.movieid
 from (select peopleid
 from people
 where (first_name = 'Humphrey'
 and surname = 'Bogart')
 or (first_name = 'Lauren'
 and surname = 'Bacall')) famous_couple
 join credits c
 on c.peopleid = famous_couple.peopleid
 and c.credited_as = 'A'
 group by c.movieid
 having count(*) = 2) bogart_plus_bacall
 join movies m
 on m.movieid = bogart_plus_bacall.movieid;
```

	title	country	year_released
1	The Big Sleep	US	1946
2	To Have and Have Not	US	1944
3	Dark Passage	US	1947
4	Key Largo	US	1948

2. How many times did John Wayne play in a John Ford film in the database?

```sql
select count(*)
 from
(select movieid m1
from credits c1
join people p1
 on c1.peopleid = p1.peopleid
where (p1.surname = 'Wayne' and p1.first_name='John')
and c1.credited_as='A') m1_sel
join
(
select movieid m2
from credits c2
join people p2
 on c2.peopleid = p2.peopleid
where (p2.surname = 'Ford' and p2.first_name='John')
and c2.credited_as='D') m2_sel
on m1_sel.m1=m2_sel.m2;
```

	count
1	10

3. Confusion between Western and Asian names. Display the peopleids and one surname and the matching surname as well as year or birth and year of death for rows in table people where birth year and death year (if set) are identical, and first_name and surname are swapped. They may be the same person entered twice by mistake.

```sql
select p1.peopleid,
  p2.peopleid,
  p1.first_name,
  p1.surname,
  p1.born,
  p1.died
from people p1
  join people p2
  on p2.first_name = p1.surname
  and p2.surname = p1.first_name
  and p2.born = p1.born
  and coalesce(p2.died, 0) = coalesce(p1.died, 0)
  and p2.peopleid > p1.peopleid; -- to avoid duplicates
```

	p1.peopleid	p2.peopleid	first_name	surname	born	died
1	526	14271	Tadanobu	Asano	1973	<null>
2	1478	6465	Huang	Bo	1974	<null>
3	2413	3544	Deng	Chao	1979	<null>
4	2520	8001	Kun	Chen	1976	<null>
5	2535	16022	Yao	Chen	1979	<null>
6	3887	7143	Juan	Du	1982	<null>
7	4339	15466	Wei	Fan	1962	<null>
8	5037	16133	You	Ge	1957	<null>
9	5751	8907	Lu	Han	1990	<null>
10	5788	8462	Lei	Hao	1978	<null>
11	6341	14365	Tao	Hong	1972	<null>
12	6457	7161	Jun	Hu	1968	<null>
13	6463	8737	Liu	Hua	1961	<null>
14	6969	13787	Song	Jia	1980	<null>
15	6977	15521	Wen	Jiang	1963	<null>

4. Display first name, surname, year of death and year of their last film for actors who died more than 20 years after the last film we have with them in the database.

```sql
select p.first_name, p.surname, a.last_film, p.died
from (select c.peopleid, max(m.year_released) last_film
  from movies m
  join credits c
  on c.movieid = m.movieid
  where credited_as = 'A'
  group by c.peopleid) a
  join people p
  on p.peopleid = a.peopleid
where p.died > 20 + a.last_film;
```

	first_name	surname	last_film	died
1	Oscar Beregi (Sr.)		1925	1965
2	Bud	Abbott	1952	1974
3	John	Abbott	1947	1996
4	Toru	Abe	1958	1993
5	Ian	Abercrombie	1988	2012
6	Andrei	Abrikosov	1938	1973
7	Dorothy	Adams	1946	1988
8	Edie	Adams	1978	2008
9	Randall Dale	Adams	1988	2010
10	Luther	Adler	1950	1984
11	Edvin	Adolphson	1951	1979
12	Iris	Adrian	1949	1994

5. What is in the database the first film in which Jackie Chan starred?

```
select m.movieid, m.title, m.country, m.runtime, m.year_released
from (select c.peopleid, min(m.year_released) first_film_year
from people p
join credits c
on c.peopleid = p.peopleid
join movies m
on m.movieid = c.movieid
where c.credited_as = 'A'
and p.first_name = 'Jackie'
and p.surname = 'Chan'
 group by c.peopleid) a
join credits c
on c.peopleid = a.peopleid
and c.credited_as = 'A'
join movies m
on m.movieid = c.movieid
and m.year_released = a.first_film_year;

-- another
with jc_m as(
select m.movieid,m.title,m.country,m.runtime,m.year_released
 from
(select c.movieid mid
from people p
join credits c on p.peopleid = c.peopleid
where credited_as='A'
and (p.first_name = 'Jackie' and p.surname = 'Chan'))m_sel
join movies m
on m_sel.mid=m.movieid)
select jc_m.*
from jc_m
where year_released=(select min(year_released) from jc_m);
```

	movieid	title	country	runtime	year_released
1	3997	Zeoi³ Kyun⁴	hk	110	1978

6. List the first name and surname, as well as the number of films by Orson Welles where they appear, of all actors, other than Orson Welles himself, who played in an Orson Welles film.

```sql
select p.first_name, p.surname, count(*) films
from (select p.peopleid ow, c.movieid
 from people p
 join credits c
 on c.peopleid = p.peopleid
 where c.credited_as = 'D'
 and p.first_name = 'Orson'
 and p.surname = 'Welles') ow_films
 join credits c
 on c.movieid = ow_films.movieid
 and c.credited_as = 'A'
 and c.peopleid <> ow_films.ow
 join people p
 on p.peopleid = c.peopleid
group by p.first_name, p.surname
```

	first_name	surname	films
1	Agnes	Moorehead	2
2	Akim	Tamiroff	3
3	Alan	Napier	1
4	Anne	Baxter	1
5	Anthony	Perkins	1
6	Charlton	Heston	1
7	Dan	O'Herlihy	1
8	Dolores	Costello	1
9	Dolores	del Río	1
10	Dorothy	Comingore	1

7. List all year and "Events" (films released time, people births time, people deaths time) that occurred between 1930 and 1935

```sql
SELECT m.year_released AS year,
 m.title || ' (' || c.country_name || ') was released' AS event
 FROM movies m
 JOIN
 countries c ON c.country_code = m.country
WHERE m.year_released BETWEEN 1930 AND 1935
UNION ALL
SELECT born,
 trim(coalesce(first_name, '') || ' ' || surname || ' was born')
 FROM people
WHERE born BETWEEN 1930 AND 1935
UNION ALL
SELECT died,
```

```
 trim(coalesce(first_name, '') || ' ' || surname || ' died')
 FROM people
WHERE died BETWEEN 1930 AND 1935
ORDER BY year;
```

	year	event
1	1930	Abbey Lincoln was born
2	1930	Sous les toits de Paris (France) was released
3	1930	Jack Garfein was born
4	1930	Ben Gazzara was born
5	1930	Rentang Li was born
6	1930	Jean-Luc Godard was born
7	1930	Philippe Leroy was born
8	1930	Nina Grebeshkova was born
9	1930	The Yellow Mask (United Kingdom) was released
10	1930	Barbara Lawrence was born
11	1930	Gene Hackman was born

8. Same as question7, pushed into a subquery to add a sort key

```
SELECT year, event
 FROM (
 SELECT m.year_released AS year,
 m.title || ' (' || c.country_name || ') was released' AS event,
 m.title AS sort_key
 FROM movies m
 JOIN
 countries c ON c.country_code = m.country
 WHERE m.year_released BETWEEN 1930 AND 1935
 UNION ALL
 SELECT born,
 trim(coalesce(first_name, '') || ' ' || surname || ' was born'),
 surname AS sort_key
 FROM people
 WHERE born BETWEEN 1930 AND 1935
 UNION ALL
 SELECT died,
 trim(coalesce(first_name, '') || ' ' || surname || ' died'),
 surname AS sort_key
 FROM people
 WHERE died BETWEEN 1930 AND 1935
 )
 x
ORDER BY year,sort_key;
```

	year	event
1	1930	Abschied (Germany) was released
2	1930	Dawn Addams was born
3	1930	Mario Adorf was born
4	1930	Moustapha Akkad was born
5	1930	All Quiet on the Western Front (United States) was released
6	1930	Alexander Allerson was born
7	1930	Animal Crackers (United States) was released
8	1930	Anna Christie (United States) was released
9	1930	Michiyo Aratama was born
10	1930	John Astin was born
11	1930	Bahadoor was born

9. Same as before, more sophisticated sort_key

```
SELECT year,
 event
 FROM (
 SELECT m.year_released AS year,
 m.title || ' (' || c.country_name || ') was released' AS event,
 trim(replace(m.title, 'The', '') ) AS sort_key
 FROM movies m
 JOIN
 countries c ON c.country_code = m.country
 WHERE m.year_released BETWEEN 1930 AND 1935
 UNION ALL
 SELECT born,
 trim(coalesce(first_name, '') || ' ' || surname || ' was born'),
 surname AS sort_key
 FROM people
 WHERE born BETWEEN 1930 AND 1935
 UNION ALL
 SELECT died,
 trim(coalesce(first_name, '') || ' ' || surname || ' died'),
 surname AS sort_key
 FROM people
 WHERE died BETWEEN 1930 AND 1935
 )
 x
 ORDER BY year,sort_key;
```

	year ⇕	event ⇕
1	1930	Abschied (Germany) was released
2	1930	Dawn Addams was born
3	1930	Mario Adorf was born
4	1930	Moustapha Akkad was born
5	1930	All Quiet on the Western Front (…
6	1930	Alexander Allerson was born
7	1930	Animal Crackers (United States) …
8	1930	Anna Christie (United States) wa…
9	1930	Michiyo Aratama was born
10	1930	The Arizona Kid (United States) …
11	1930	John Astin was born

10. Events that happened the year when the earliest "Devdas" was released

```
WITH earliest_devdas AS (
  SELECT min(year_released) AS year
  FROM movies
  WHERE title = 'Devdas'
)
SELECT m.year_released AS year,
  m.title || ' (' || c.country_name || ') was released' AS event
  FROM movies m
  JOIN
  countries c ON c.country_code = m.country
WHERE m.year_released = (
  SELECT year
  FROM earliest_devdas
  )
UNION ALL
SELECT born,
  trim(coalesce(first_name, '') || ' ' || surname || ' was born')
  FROM people
WHERE born = (
  SELECT year
  FROM earliest_devdas
  )
UNION ALL
SELECT died,
  trim(coalesce(first_name, '') || ' ' || surname || ' died')
  FROM people
WHERE died = (
  SELECT year
  FROM earliest_devdas
  );
```

	year ⬍	event
1	1935	Devdas (India) was released
2	1935	Top Hat (United States) was released
3	1935	Mutiny on the Bounty (United States) was released
4	1935	David Copperfield (United States) was released
5	1935	The Informer (United States) was released
6	1935	The Lives of a Bengal Lancer (United States) was released
7	1935	Les Misérables (United States) was released
8	1935	Ruggles of Red Gap (United States) was released
9	1935	The Scoundrel (United States) was released
10	1935	The 39 Steps (United Kingdom) was released

11. Films where Qi Shu played without Ge You. Illustrates that "except" isn't really necessary

```
SELECT m.title,
 m.country,
 m.year_released
 FROM (
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 WHERE p.first_name = 'Qi' AND
 p.surname = 'Shu' AND
 c.credited_as = 'A'
 EXCEPT
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 WHERE p.first_name = 'You' AND
 p.surname = 'Ge' AND
 c.credited_as = 'A'
 )
 x
 JOIN
 movies m ON m.movieid = x.movieid
 ORDER BY m.year_released;

-- or
SELECT m.title, m.country, m.year_released
 FROM (
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 WHERE p.first_name = 'Qi' AND
 p.surname = 'Shu' AND
 c.credited_as = 'A' AND
 c.movieid NOT IN (
 SELECT c.movieid
 FROM credits c
 JOIN
```

```sql
 people p ON p.peopleid = c.peopleid
 WHERE p.first_name = 'You' AND
 p.surname = 'Ge' AND
 c.credited_as = 'A'
 )
 )x
 JOIN
 movies m ON m.movieid = x.movieid
ORDER BY m.year_released;

-- or
SELECT m.title, m.country,m.year_released
 FROM (
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 WHERE p.first_name = 'Qi' AND
 p.surname = 'Shu' AND
 c.credited_as = 'A' AND
 NOT EXISTS (
 SELECT NULL
 FROM credits c2
 JOIN
 people p2 ON p2.peopleid = c2.peopleid
 WHERE p2.first_name = 'You' AND
 p2.surname = 'Ge' AND
 c2.credited_as = 'A' AND
 p2.peopleid = c2.peopleid AND
 c2.movieid = c.movieid
 )
 )x
 JOIN
 movies m ON m.movieid = x.movieid
ORDER BY m.year_released;

-- or
SELECT m.title,m.country, m.year_released
 FROM (
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 LEFT OUTER JOIN
 (
 SELECT c2.movieid
 FROM credits c2
 JOIN
 people p2 ON p2.peopleid = c2.peopleid
 WHERE p2.first_name = 'You' AND
 p2.surname = 'Ge' AND
 c2.credited_as = 'A' AND
 p2.peopleid = c2.peopleid
 )
 y ON y.movieid = c.movieid
 WHERE p.first_name = 'Qi' AND
 p.surname = 'Shu' AND
 c.credited_as = 'A' AND
```

```sql
 y.movieid IS NULL
 )
 x
 JOIN
 movies m ON m.movieid = x.movieid
ORDER BY m.year_released;

-- or
SELECT m.title, m.country, m.year_released
 FROM (
 SELECT c.movieid
 FROM credits c
 JOIN
 people p ON p.peopleid = c.peopleid
 WHERE (p.first_name = 'Qi' AND
 p.surname = 'Shu') OR
 (p.first_name = 'You' AND
 p.surname = 'Ge') AND
 c.credited_as = 'A'
 GROUP BY c.movieid
 HAVING count( * ) = 1 AND
 min(surname) = 'Shu'
 )x
-- If the min is Qi, there is no Ge
 JOIN
 movies m ON m.movieid = x.movieid
ORDER BY m.year_released;
```

	title	country	year_released
1	Bō Lí Zūn	hk	1999
2	Chun Sing Gai Bei	hk	2010
3	Bat¹ Zoi³ Jeong⁶ Nei² Gu¹ Daan¹	cn	2011
4	Qing Mi	hk	2012
5	Xī Yóu · Jiàng Mó Piān	cn	2013
6	Guǐ Chuī Dēng Zhī Xún Lóng Jué	cn	2015
7	Cìkè Niè Yǐnniáng	tw	2015
8	Wǒ Zuì Hǎo Péngyǒu Dí Hūnlǐ	cn	2016
9	Hap⁶ Dou⁶ Lyun⁴ Mang⁴	hk	2017