

```

SELECT MIN(n.name) AS
member_in_charnamed_american_movie,
MIN(n.name) AS a1
FROM
    cast_info AS ci,
    company_name AS cn,
    keyword AS k,
    movie_companies AS mc,
    movie_keyword AS mk,
    name AS n,
    title AS t
WHERE cn.country_code = '[us]'
AND k.keyword = 'character-name-in-title'
AND n.name LIKE 'B%'
AND n.id = ci.person_id AND ci.movie_id =
t.id
AND t.id = mk.movie_id
AND mk.keyword_id = k.id AND t.id =
mc.movie_id
AND mc.company_id = cn.id
AND ci.movie_id = mc.movie_id AND ci.movie_id
= mk.movie_id
AND mc.movie_id = mk.movie_id;

```

Original query (JOB 17a)

Execution Step 1:  
Building Bloom Filters

Execution Step 2:  
Query Execution

```

SELECT pg_lip_bloom_init(3);
SELECT sum(pg_lip_bloom_add(0, id))
    FROM keyword AS k WHERE k.keyword = 'character-name-in-title';
SELECT sum(pg_lip_bloom_add(1, id))
    FROM company_name AS cn WHERE cn.country_code = '[us]';
SELECT sum(pg_lip_bloom_add(2, id)) FROM name AS n WHERE n.name LIKE 'B%';

SELECT MIN(n.name) AS member_in_charnamed_american_movie,
MIN(n.name) AS a1
FROM
    ( SELECT * FROM cast_info
      WHERE pg_lip_bloom_probe(2, person_id)) AS ci,
    company_name AS cn,
    keyword AS k,
    ( SELECT * FROM movie_companies
      WHERE pg_lip_bloom_probe(1, company_id)) AS mc,
    ( SELECT * FROM movie_keyword
      WHERE pg_lip_bloom_probe(0, keyword_id) ) AS mk,
    name AS n,
    title AS t
WHERE cn.country_code = '[us]'
AND k.keyword = 'character-name-in-title'
AND n.name LIKE 'B%'
AND n.id = ci.person_id AND ci.movie_id = t.id
AND t.id = mk.movie_id
AND mk.keyword_id = k.id AND t.id = mc.movie_id
AND mc.company_id = cn.id
AND ci.movie_id = mc.movie_id AND ci.movie_id = mk.movie_id
AND mc.movie_id = mk.movie_id;

```

LIP rewritten query (JOB 17a)