```sql
-- query 1
SELECT authors.name, AVG(books.avg_rating)::numeric(5,2) as rating
FROM authors JOIN books
ON authors.id = books.author_id
WHERE books.avg_rating > 0
GROUP BY authors.name
ORDER BY rating DESC;

-- query 2
SELECT books.title, authors.name, ((authors.died - authors.born)/
365.25)::int as age
FROM books JOIN
(
        SELECT * FROM authors
        WHERE authors.born IS NOT NULL AND authors.died IS NOT NULL
) as authors
ON authors.id = books.author_id
WHERE ((authors.died - authors.born)/ 365.25)::int > 50
ORDER BY age DESC;

-- query 3
SELECT percentile_disc(0.5) WITHIN GROUP (ORDER BY books.year)
FROM books JOIN publishers
ON publishers.id = books.publisher_id;

-- query 4
SELECT books.title, books.year, authors.name, authors.gender
FROM books JOIN authors
ON authors.id = books.author_id
WHERE authors.gender = 'f' AND books.year > 1950
ORDER BY books.year DESC;

-- query 5
SELECT publishers.year, publishers.name, books.avg_rating, books.title
FROM books JOIN publishers
ON publishers.id = books.publisher_id
WHERE books.avg_rating > 3.0 AND publishers.year < 1900
ORDER BY publishers.year DESC, books.avg_rating DESC;
```