База MySQL тіки під рукою була

```sql
CREATE TABLE Publisher (
Id INT PRIMARY KEY,
Name VARCHAR(255),
State VARCHAR(255),
Site VARCHAR(255)
);

CREATE TABLE Site (
Id INT PRIMARY KEY,
Name VARCHAR(255),
State VARCHAR(255),
Publisher_id INT,
FOREIGN KEY (Publisher_id) REFERENCES Publisher(Id)
);

CREATE TABLE Stats (
Site_Id INT,
Publisher_Id INT,
Requests INT,
Impressions INT,
Date DATE,
FOREIGN KEY (Site_Id) REFERENCES Site(Id),
FOREIGN KEY (Publisher_Id) REFERENCES Publisher(Id)
);
```

```sql
-- Publisher table
INSERT INTO Publisher (Id, Name, State, Site)
VALUES
(1, 'Penguin Random House', 'New York', 'www.penguinrandomhouse.com'),
(2, 'HarperCollins', 'New York', 'www.harpercollins.com'),
(3, 'Simon & Schuster', 'New York', 'www.simonandschuster.com'),
(4, 'Hachette Book Group', 'New York', 'www.hachettebookgroup.com'),
(5, 'Macmillan Publishers', 'New York', 'us.macmillan.com');

-- Site table
INSERT INTO Site (Id, Name, State, Publisher_id)
VALUES
(1, 'Penguin Random House Books', 'New York', 1),
(2, 'HarperCollins Publishers', 'New York', 2),
(3, 'Simon & Schuster Books', 'New York', 3),
(4, 'Hachette Book Group Books', 'New York', 4),
(5, 'Macmillan Publishers Books', 'New York', 5);

-- Stats table
INSERT INTO Stats (Site_Id, Publisher_Id, Requests, Impressions, Date)
VALUES
(1, 1, 500, 400, '2023-04-01'),
(1, 1, 700, 600, '2023-04-02'),
(2, 2, 1000, 800, '2023-04-01'),
(2, 2, 1200, 1000, '2023-04-02'),
(3, 3, 800, 700, '2023-04-01'),
(3, 3, 1000, 900, '2023-04-02'),
(4, 4, 600, 500, '2023-04-01'),
```

```
(4, 4, 800, 700, '2023-04-02'),
(5, 5, 900, 800, '2023-04-01'),
(5, 5, 1100, 1000, '2023-04-02');
```

1 To transfer site records from Publishers to Site and update Site.State based on Publisher.State:

```
SELECT Id, Name,
CASE WHEN Publisher.State = 1 THEN 1 ELSE 0 END AS State,
Publisher.Id AS Publisher_id
FROM Publisher
```

2 To display the sum of requests and impressions for active sites along with the publisher name:

```
SELECT Publisher.Name, Site.Name, SUM(Stats.Requests) as TotalRequests,
SUM(Stats.Impressions) as TotalImpressions
FROM Publisher
JOIN Site ON Publisher.Id = Site.Publisher_id
JOIN Stats ON Site.Id = Stats.Site_Id
WHERE Stats.Date = '2023-04-02' -- only show data for a specific date, remove
this line to show all data
GROUP BY Publisher.Name, Site.Name;
```

3 To output the line with the maximum Fillrate:

```sql
SELECT s.Name, CONCAT('(', p.Name, ')') AS Publisher, Requests, Impressions,
CASE
WHEN Impressions = 0 THEN 0
ELSE CAST(Requests AS FLOAT)/Impressions
END AS Fillrate
FROM Site s
INNER JOIN Publisher p ON s.Publisher_id = p.Id
INNER JOIN Stats st ON s.Id = st.Site_Id
WHERE Date = '2023-04-02'
ORDER BY Fillrate DESC
LIMIT 1
```

4 To add a new site for a specific publisher:

```sql
SELECT 'New Site', 1, Id FROM Publisher WHERE Name = 'Penguin Random House'
```

5 To add statistics to the Stats table for a specific site:

```sql
INSERT INTO Stats (Site_Id, Publisher_Id, Requests, Impressions, Date)
VALUES (1, 1, 800, 700, '2023-04-03');
```

6 To select a list of all sites of a specific publisher whose names do not overlap with the sites of other publishers:

```sql
SELECT s.Name, CONCAT('(', p.Name, ')') AS Publisher
FROM Site s
INNER JOIN Publisher p ON s.Publisher_id = p.Id
WHERE s.Name NOT IN (
```

```sql
SELECT Name FROM Site WHERE Publisher_id <> p.Id
)
AND p.Name = 'Penguin Random House'
```

7 To display the number of requests and impressions only for new sites:

```sql
SELECT s.Name AS Site, p.Name AS Publisher, SUM(Requests) AS TotalRequests,
SUM(Impressions) AS TotalImpressions
FROM Site s
INNER JOIN Publisher p ON s.Publisher_id = p.Id
INNER JOIN Stats ON s.Id = Stats.Site_Id
WHERE s.Id NOT IN (
SELECT Site_Id FROM Stats WHERE Site_Id <> Stats.Site_Id
)
GROUP BY s.Name, p.Name;
```