**Tables:**

**Payment Table**: This table contains all the payment records on a date and member level. This is for members who make a payment on each day. A sample data looks like this:

|  |  |  |
| --- | --- | --- |
| Date | memberID | Amount |
| 1/3 | A | $33.9 |
| 1/4 | C | $19.3 |
| 1/7 | A | $29.1 |

**User Table**: This table contains all the active records on a date and member level. This is for member who visit linkedin.com site on each day. A sample data looks like this:

|  |  |
| --- | --- |
| Date | memberID |
| 1/1 | A |
| 1/3 | A |
| 1/3 | B |
| 1/4 | A |
| 1/4 | C |
| 1/5 | B |

**Date Table:** this table contains the date information

|  |
| --- |
| Date |
| 1/1 |
| 1/2 |
| 1/3 |
| 1/4 |
| 1/5 |
| 1/6 |

**Questions**:

Please write a query for the following cases:

1. Total Revenue & Payers: Create a table to display total revenue & number of buyers on each day

|  |  |  |
| --- | --- | --- |
| Date | revenue | buyers |

#Q1

SELECT d.date , sum(p.amount) AS revenue, count(memberID) AS buyers

FROM Date AS d LEFT OUTER JOIN Payment AS p

ON d.date=p.date

GROUP BY date

ORDER BY d.date;

1. Top payers: Create a table to display the top one payer on each day

|  |  |
| --- | --- |
| Date | memberID |

#Q2

SELECT DISTINCT d.Date, payer.memberID

FROM Date d

LEFT JOIN

(SELECT Date, memberID FROM Payment

WHERE (Date,Amount) IN

(SELECT Date,max(Amount) FROM Payment GROUP BY Date)) AS payer

ON d.Date = payer.Date

ORDER BY d.Date;

1. A distribution of # days active within a week: Create a table to show how many members are active for 1 day, 2days, 3days,…7days during 3/1-3/7.

|  |  |
| --- | --- |
| #Days Active | Count |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |

#Q3

SELECT DISTINCT activedays AS '#Days Active', count(a.activedays) AS count

FROM (

SELECT count(memberID) AS activedays

FROM user

WHERE (user.`Date` between '2018/3/1' and '2018/3/7')

GROUP BY memberID

ORDER BY activedays) AS a

GROUP BY a.activedays

ORDER BY a.activedays;

1. Active but not payers: Create a table to display people who were active but did not pay on each day

|  |  |
| --- | --- |
| Date | memberID |

#Q4

SELECT d.Date AS 'Date', u.memberID AS memberID

FROM date AS d

LEFT OUTER JOIN user AS u

ON d.date = u.date

LEFT OUTER JOIN Payment AS p

ON p.memberID = u.memberID AND p.date = u.date

WHERE p.amount IS NULL

ORDER BY d.date;