1. Write a query to display the average 8th hour unit consumption from electricity reading for all users.Give an alias name to the average 8th hour consumption as 'average\_8th\_hour\_consumption'.

select \* from electricity\_reading;

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| id | meter\_id | day | h1 | h2 | h3 | h4 | h5 | h6 | h7 | h8 | h9 | h10 | h11 | h12 | h13 | h14 | h15 | h16 | h17 | h18 | h19 | h20 | h21 | h22 | h23 | h24 | total\_units |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| 1 | 1230 | 2016-12-12 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 800 |

| 2 | 3456 | 2016-12-22 | 11 | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 102 | 113 | 123 | 132 | 142 | 153 | 163 | 172 | 182 | 193 | 204 | 212 | 223 | 233 | 242 | 1000 |

| 3 | 3456 | 2017-10-10 | 14 | 24 | 34 | 44 | 54 | 64 | 74 | 84 | 95 | 105 | 114 | 124 | 134 | 144 | 154 | 164 | 174 | 185 | 194 | 204 | 215 | 225 | 234 | 244 | 2000 |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

select avg(h8) as average\_8th\_hour\_consumption from electricity\_reading;

+------------------------------+

| average\_8th\_hour\_consumption |

+------------------------------+

| 82.0000 |

|  |
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|  |

2) Write a query to display the average unit of electricity  consumption for all the users.Give an alias name to the average units as 'average\_units\_of\_electricity'.

select \* from electricity\_reading;

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| id | meter\_id | day | h1 | h2 | h3 | h4 | h5 | h6 | h7 | h8 | h9 | h10 | h11 | h12 | h13 | h14 | h15 | h16 | h17 | h18 | h19 | h20 | h21 | h22 | h23 | h24 | total\_units |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| 1 | 1230 | 2016-12-12 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 800 |

| 2 | 3456 | 2016-12-22 | 11 | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 102 | 113 | 123 | 132 | 142 | 153 | 163 | 172 | 182 | 193 | 204 | 212 | 223 | 233 | 242 | 1000 |

| 3 | 3456 | 2017-10-10 | 14 | 24 | 34 | 44 | 54 | 64 | 74 | 84 | 95 | 105 | 114 | 124 | 134 | 144 | 154 | 164 | 174 | 185 | 194 | 204 | 215 | 225 | 234 | 244 | 2000 |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

select avg(total\_units) as average\_units\_of\_electricity from electricity\_reading;

+------------------------------+

| average\_units\_of\_electricity |

+------------------------------+

| 1266.6667 |

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3) Write a query to display the average payable amount from bill where payable\_amount is greater than 10000.Give an alias name to the average payable amount as 'average\_payable\_amount'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |

select avg(payable\_amount) as average\_payable\_amount from bill where payable\_amount>10000;

+------------------------+

| average\_payable\_amount |

+------------------------+

| 19000 |

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4) Write a query to display the average of fine amount, whose payment date is on the year 2018.Give an alias name to the average fine amount as 'average\_fine\_amount'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |

select avg(fine\_amount) as average\_fine\_amount from bill where year=2018;

+---------------------+

| average\_fine\_amount |

+---------------------+

| 130 |

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5) Write a query to display the sum of payable amount from bill.Give an alias name to the sum of payable amount as 'sum\_payable\_amount'

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

select sum(payable\_amount) as sum\_payable\_amount from bill;

+--------------------+

| sum\_payable\_amount |

+--------------------+

| 110000 |

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6)Write a query to display the sum of payable amount with due date '2017-10-01'.Give an alias name to the sum of payable amount as 'sum\_payable\_amount'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

select sum(payable\_amount) as sum\_payable\_amount from bill where due\_date='2017-10-01';

+--------------------+

| sum\_payable\_amount |

+--------------------+

| 3000 |

+--------------------+

7)Write a query to display the minimum total units consumed by all users from electricity reading table. Give an alias name to the minimum total units as 'min\_total\_units'

select \* from electricity\_reading;

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| id | meter\_id | day | h1 | h2 | h3 | h4 | h5 | h6 | h7 | h8 | h9 | h10 | h11 | h12 | h13 | h14 | h15 | h16 | h17 | h18 | h19 | h20 | h21 | h22 | h23 | h24 | total\_units |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

| 1 | 1230 | 2016-12-12 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 800 |

| 2 | 3456 | 2016-12-22 | 11 | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 102 | 113 | 123 | 132 | 142 | 153 | 163 | 172 | 182 | 193 | 204 | 212 | 223 | 233 | 242 | 1000 |

| 3 | 3456 | 2017-10-10 | 14 | 24 | 34 | 44 | 54 | 64 | 74 | 84 | 95 | 105 | 114 | 124 | 134 | 144 | 154 | 164 | 174 | 185 | 194 | 204 | 215 | 225 | 234 | 244 | 2000 |

+----+----------+------------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+------+-------------+

select min(total\_units) as min\_total\_units from electricity\_reading;

+-----------------+

| min\_total\_units |

+-----------------+

| 800 |

|  |
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|  |

8)Write a query to display the second minimum fine amount from bill.Give an alias name to the second minimum fine amount as 'second\_min\_fine\_amount'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----

------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

select min(fine\_amount) as second\_min\_fine\_amount from bill where fine\_amount = (select min(fine\_amount) from bill where fine\_amount > (select min(fine\_amount) from bill));

+------------------------+

| second\_min\_fine\_amount |

+------------------------+

| 50 |

+------------------------+

9)Write a query to display the month and the minimum units of electricity consumed in each month. Give an alias name to the minimum units as 'minimum\_units'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

select month,min(total\_units) as minimum\_units from bill;

+-------+---------------+

| month | minimum\_units |

+-------+---------------+

| 2 | 200 |

|  |  |
| --- | --- |
|  |  |

10)Write a query to display the standard deviation of the fine amount, whose payment date is on the year 2018.Give an alias name to the standard deviation to the fine amount  as 'standard\_deviation\_amount'.

select \* from bill;

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| id | meter\_id | month | year | due\_date | total\_units | payable\_amount | is\_played | payment\_date | fine\_amount |

+----+----------+-------+------+------------+-------------+----------------+-----------+--------------+-------------+

| 1 | 1230 | 2 | 2016 | 2016-02-12 | 200 | 100 | 50 | 2016-02-23 | 70 |

| 2 | 1230 | 3 | 2016 | 2016-02-02 | 300 | 200 | 40 | 2016-03-13 | 60 |

| 3 | 3456 | 7 | 2016 | 2016-06-12 | 400 | 300 | 70 | 2016-07-12 | 40 |

| 4 | 3456 | 6 | 2017 | 2017-06-12 | 10000 | 700 | 75 | 2017-06-22 | 100 |

| 5 | 3456 | 8 | 2017 | 2017-08-12 | 15000 | 800 | 85 | 2017-08-23 | 200 |

| 6 | 3456 | 12 | 2017 | 2017-12-12 | 25000 | 900 | 95 | 2017-12-13 | 300 |

| 7 | 1230 | 12 | 2017 | 2017-10-01 | 25000 | 900 | 95 | 2017-12-13 | 400 |

| 8 | 1230 | 11 | 2017 | 2017-10-01 | 23000 | 1000 | 65 | 2017-11-13 | 500 |

| 9 | 3456 | 10 | 2017 | 2017-10-01 | 33000 | 1100 | 45 | 2017-10-11 | 600 |

| 10 | 1230 | 2 | 2018 | 2018-12-13 | 44000 | 15000 | 55 | 2018-12-15 | 50 |

| 11 | 3456 | 1 | 2019 | 2019-02-13 | 45000 | 17000 | 45 | 2019-03-15 | 300 |

| 12 | 3456 | 6 | 2019 | 2019-05-13 | 75000 | 25000 | 95 | 2019-06-25 | 230 |

| 13 | 3456 | 6 | 2018 | 2018-05-13 | 85000 | 23000 | 94 | 2018-06-25 | 210 |

| 14 | 1230 | 5 | 2018 | 2018-05-13 | 80000 | 24000 | 44 | 2018-05-25 | 130 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |

select stddev(fine\_amount) as standard\_deviation\_amount from bill where year=2018;

+---------------------------+

| standard\_deviation\_amount |

+---------------------------+

| 65.31972647421809 |

+---------------------------+