SQL query

P

Su

c1,SUM(c2)

c1,SUM(c2)

P

c1,SUM(c2)

Su

c1,MIN(c2)

SELECT

GROUP BY

Pa

Pa

WHERE

A

(c1,c2)

c3 < 10

Se

Se

(c1,c2)

c2 < 10

A

FROM

FROM

880 F + 360G + 840P

80 P

c1,SUM(c2)

80 P

80 P

c1,SUM(c2)

80 P

80 GP

80 GP

80 P

80 P

100 GP

80 F

80 F

80 F

80 F

80 F

80 F

100 F

100 F

100 GP

100 F

100 F

Pa

Pa

Se

c3 < 10

Su

P

(c1,c2)

A

c1,SUM(c2)

Se

SELECT

c1,MIN(c2)

c2 < 10

WHERE

Su

P

GROUP BY

(c1,c2)

A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n |
| k1 | null | x1 | null | 6 |
| k2 | null | x1 | null | 1 |
| k4 | null | x3 | null | 3 |
| k5 | null | x4 | null | 9 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n |
| k1 | null | x1 | null | 5 |
| k3 | null | x2 | null | 7 |
| k4 | null | x3 | null | 8 |
| k5 | null | x4 | null | 5 |

|  |  |  |
| --- | --- | --- |
| rk | c3o | c3n |
| x1\_k1 | null | 6 |
| x1\_k2 | null | 1 |
| x3\_k4 | null | 3 |
| x4\_k5 | null | 9 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n |
| k1 | null | x1 | null | 6 |
| k2 | null | x1 | null | 1 |
| k3 | null | x2 | null | 17 |
| k4 | null | x3 | null | 3 |
| k5 | null | x4 | null | 9 |
| k6 | null | x4 | null | 10 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c3o | c3n |
| k1 | null | x1 | null | 5 |
| k2 | null | x1 | null | 12 |
| k3 | null | x2 | null | 7 |
| k4 | null | x3 | null | 8 |
| k5 | null | x4 | null | 5 |
| k6 | null | x4 | null | 21 |

|  |  |  |  |
| --- | --- | --- | --- |
| Rk | c1 | c2 | c3 |
| k1 | x1 | 6 | 5 |
| k2 | x1 | 1 | 12 |
| k3 | x2 | 17 | 7 |
| k4 | x3 | 3 | 8 |
| k5 | x4 | 9 | 5 |
| k6 | x4 | 10 | 21 |

|  |  |  |
| --- | --- | --- |
| rk | c3o | c3n |
| x1\_k1 | null | 5 |
| x2\_k3 | null | 7 |
| x3\_k4 | null | 8 |
| x4\_k5 | null | 5 |

|  |  |  |
| --- | --- | --- |
| rk | c3o | c3n |
| x1 | null | 1 |
| x3 | null | 3 |
| x4 | null | 9 |

|  |  |  |
| --- | --- | --- |
| rk | c3o | c3n |
| x1 | null | 5 |
| x2 | null | 7 |
| x3 | null | 8 |
| x4 | null | 5 |

c3,MIN(c3)

c3,MIN(c3)

d2 < 10

A

A

(c1,c2)

(c1,c3)

P

c3 <= 10

c1,SUM(c2)

Se

Pa

Su

Se

c1

Su

Pa

c1,MIN(c2)

P

c1,c2

c1,c3

c1

c2 <= 10

Z3

Z2

Z1

c1,MIN(c2)

Z4

Z5

A

(c1,c2,c3)

P

c1,c2,c3

c3 <= 10

c1

c1

Pa

Pa

Se

c1,SUM(c2)

Su

Se

c2 <= 10

Su

c2 <= 10 c3 <= 10

(c1,c2) **AND** (c1,c2)

c1,c2 **AND** c1,c3

c3 < 10 **AND** c2 < 10

c1,c2 **AND** c1,c3

c1,MIN(c2) **AND** c1,SUM(c3)

Z1

Z2

Su

Pa

Se

P

A

|  |  |  |  |
| --- | --- | --- | --- |
| Rk | c1 | c2 | c3 |
| k1 | x1 | 6 | 5 |
| k2 | x1 | 1 | 12 |
| k3 | x2 | 17 | 7 |
| k4 | x3 | 3 | 8 |
| k5 | x3 | 9 | 5 |
| k6 | x4 | 10 | 21 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n | c3o | c3n |
| k1 | null | x1 | null | 6 | null | 5 |
| k2 | null | x1 | null | 1 | null | 12 |
| k3 | null | x2 | null | 17 | null | 7 |
| k4 | null | x3 | null | 3 | null | 8 |
| k5 | null | x3 | null | 9 | null | 5 |
| k6 | null | x4 | null | 10 | null | 21 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n | c3o | c3n | c2<10 | c3<10 |
| k1 | null | x1 | null | 6 | null | 5 | true | true |
| k2 | null | x1 | null | 1 | null | 12 | true | false |
| k3 | null | x2 | null | 17 | null | 7 | false | true |
| k4 | null | x3 | null | 3 | null | 8 | true | false |
| k5 | null | x3 | null | 9 | null | 5 | true | false |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| rk | c2o | c2n | c3o | c3n | c2<10 | c3<10 |
| x1\_k1 | null | 6 | null | 5 | true | true |
| x1\_k2 | null | 1 | null | 12 | true | false |
| x2\_k3 | null | 17 | null | 7 | false | true |
| x3\_k4 | null | 3 | null | 8 | true | true |
| x3\_k5 | null | 9 | null | 5 | true | true |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| rk | cSum1o | cSum1n | cSum2o | cSum2n |
| x1 | null | 7 | null | 5 |
| x2 | null | null | null | 7 |
| x3 | null | 3 | null | 8 |

90 F

90GP

100G/90P

100 F

190 F + 190G + 180P

Z2

A

Z1

(c1,c2) **AND** (c1,c2)

c3 < 10 **AND** c2 < 10

c1,MIN(c2) **AND** c1,SUM(c3)

c1,c2 **AND** c1,c3

c1,c2 **AND** c1,c3

|  |  |  |  |
| --- | --- | --- | --- |
| Rk | c1 | c2 | c3 |
| k1 | x1 | 6 | 5 |
| k2 | x1 | 1 | 12 |
| k3 | x2 | 17 | 7 |
| k4 | x3 | 3 | 8 |
| k5 | x3 | 9 | 5 |
| k6 | x4 | 10 | 21 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rk | c1o | c1n | c2o | c2n | c3o | c3n | c2<10 | c3<10 |
| k1 | null | x1 | null | 6 | null | 5 | true | true |
| k2 | null | x1 | null | 1 | null | 12 | true | false |
| k3 | null | x2 | null | 17 | null | 7 | false | true |
| k4 | null | x3 | null | 3 | null | 8 | true | true |
| k5 | null | x3 | null | 9 | null | 5 | true | true |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| rk | c2o | c2n | c3o | c3n | cSum1o | cSum1n | cSum2o | cSum2n | c2<10 | c3<10 |
| x1\_k1 | null | 6 | null | 5 |  |  |  |  | true | true |
| x1\_k2 | null | 1 | null | 12 |  |  |  |  | true | false |
| x1 |  |  |  |  | null | 7 | null | 5 |  |  |
| x2\_k3 | null | 17 | null | 7 |  |  |  |  | false | true |
| x2 |  |  |  |  | null | null | null | 7 |  |  |
| x3\_k4 | null | 3 | null | 8 |  |  |  |  | true | true |
| x3\_k5 | null | 9 | null | 5 |  |  |  |  | true | true |
| x3 |  |  |  |  | null | 3 | null | 8 |  |  |

P

Se

c3 < 10

P

Se

Pa

c2 < 10

c1,SUM(c2)

P

Su

c1,MIN(c2)

c1,SUM(c2)

c1,SUM(c2)

SELECT

SUM(d2) <= 5

c3,SUM(d2)

RJ

A

A B

GROUP BY

WHERE

J

S

H

d2 <= 10

(c1,c2)

A

A

FROM

(c1,c2)

(c1,c2)

A

B

c1,SUM(c2)

|  |  |  |  |
| --- | --- | --- | --- |
| rk | c1 | c2 | c3 |
| k1 | x1 | y1 | 5 |
| k2 | x1 | y1 | 12 |
| k3 | x2 | y2 | 7 |
| k4 | x3 | y2 | 8 |