

Ketty gives Eve a task to generate a report containing three columns: Name, Grade and Mark. Ketty doesn't want the NAMES of those students who received a grade lower than 8. The report must be in descending order by grade -- i.e. higher grades are entered first. If there is more than one student with the same grade (8-10) assigned to them, order those particular students by their name alphabetically. Finally, if the grade is lower than 8, use "NULL" as their name and list them by their grades in descending order. If there is more than one student with the same grade (1-7) assigned to them, order those particular students by their marks in ascending order.

Write a query to help Eve.

STUDENTS

| Id | Name | Marks |
|----|-----------|-------|
| 19 | Samantha | 87 |
| 21 | Julia | 96 |
| 11 | Britney | 95 |
| 32 | Kristeen | 100 |
| 12 | Dyana | 55 |
| 13 | Jenny | 66 |
| 14 | Christene | 88 |
| 15 | Meera | 24 |
| 16 | Priya | 76 |
| 17 | Priyanka | 77 |
| 18 | Paige | 74 |
| 19 | Jane | 64 |
| 21 | Belvet | 78 |
| 31 | Scarlet | 80 |
| 41 | Salma | 81 |
| 51 | Amanda | 34 |
| 61 | Heraldo | 94 |
| 71 | Stuart | 99 |
| 81 | Aamina | 77 |
| 76 | Amina | 89 |
| 91 | Vivek | 84 |

Grades

| Grade | Min_marks | Max_marks |
|-------|-----------|-----------|
| 1 | 0 | 9 |
| 2 | 10 | 19 |
| 3 | 20 | 29 |
| 4 | 30 | 39 |
| 5 | 40 | 49 |
| 6 | 50 | 59 |
| 7 | 60 | 69 |
| 8 | 70 | 79 |
| 9 | 80 | 89 |
| 10 | 90 | 100 |

STEP 1

Check tables and understand the column and data and what question need

| Name | Marks | Grades |
|-----------|-------|--------|
| Samantha | 87 | 9 |
| Julia | 96 | 10 |
| Britney | 95 | 10 |
| Kristeen | 100 | 10 |
| Dyana | 55 | 6 |
| Jenny | 66 | 7 |
| Christene | 88 | 9 |
| Meera | 24 | 3 |
| Priya | 76 | 8 |
| Priyanka | 77 | 8 |
| Paige | 74 | 8 |
| Jane | 64 | 7 |
| Belvet | 78 | 8 |
| Scarlet | 80 | 9 |
| Salma | 81 | 9 |
| Amanda | 34 | 4 |
| Heraldo | 94 | 10 |
| Stuart | 99 | 10 |
| Aamina | 77 | 8 |
| Amina | 89 | 9 |
| Vivek | 84 | 9 |

STEP 2

Case when to create addition column of grade ;

(Right now cant understand how to join join without common column)

BUT At the end Learn new way to do it.

```
SELECT
  name,
  marks,
  case when marks between 0
and 9 then 1 when marks between 10
and 19 then 2 when marks between 20
and 29 then 3 when marks between 30
and 39 then 4 when marks between 40
and 49 then 5 when marks between 50
and 59 then 6 when marks between 60
and 69 then 7 when marks between 70
and 79 then 8 when marks between 80
and 89 then 9 when marks between 90
and 100 then 10 end as Grades
from
  students;
```

| Name | Marks | Grades | new_ |
|-----------|-------|--------|-----------|
| Britney | 95 | 10 | Britney |
| Heraldo | 94 | 10 | Heraldo |
| Julia | 96 | 10 | Julia |
| Kristeen | 100 | 10 | Kristeen |
| Stuart | 99 | 10 | Stuart |
| Amina | 89 | 9 | Amina |
| Christene | 88 | 9 | Christene |
| Salma | 81 | 9 | Salma |
| Samantha | 87 | 9 | Samantha |
| Scarlet | 80 | 9 | Scarlet |
| Vivek | 84 | 9 | Vivek |
| Aamina | 77 | 8 | Aamina |
| Belvet | 78 | 8 | Belvet |
| Paige | 74 | 8 | Paige |
| Priya | 76 | 8 | Priya |
| Priyanka | 77 | 8 | Priyanka |
| Jane | 64 | 7 | NULL |
| Jenny | 66 | 7 | NULL |
| Dyana | 55 | 6 | NULL |
| Amanda | 34 | 4 | NULL |
| Meera | 24 | 3 | NULL |

STEP 3

Using the above query in cte and condition required as per question the desired table can be see.

(Just final touch is required)

```

SELECT
  name,
  marks,
  case when marks between 0
and 9 then 1 when marks between 10
and 19 then 2 when marks between 20
and 29 then 3 when marks between 30
and 39 then 4 when marks between 40
and 49 then 5 when marks between 50
and 59 then 6 when marks between 60
and 69 then 7 when marks between 70
and 79 then 8 when marks between 80
and 89 then 9 when marks between 90
and 100 then 10 end as Grades
from
  students
)
select
  name,
  marks,
  grades,
  case when grades >= 8 then name else Null end as new_
from
  grade
order by
  grades desc,
  name asc;

```

| new_ | Grades | Marks |
|-----------|--------|-------|
| Britney | 10 | 95 |
| Heraldo | 10 | 94 |
| Julia | 10 | 96 |
| Kristeen | 10 | 100 |
| Stuart | 10 | 99 |
| Amina | 9 | 89 |
| Christene | 9 | 88 |
| Salma | 9 | 81 |
| Samantha | 9 | 87 |
| Scarlet | 9 | 80 |
| Vivek | 9 | 84 |
| Aamina | 8 | 77 |
| Belvet | 8 | 78 |
| Paige | 8 | 74 |
| Priya | 8 | 76 |
| Priyanka | 8 | 77 |
| NULL | 7 | 64 |
| NULL | 7 | 66 |
| NULL | 6 | 55 |
| NULL | 4 | 34 |
| NULL | 3 | 24 |

OUTPUT

Using the above query in cte and rest code in subquery ,fetch the required rows in the format asked

```

with grade as (
  SELECT
    name,
    marks,
    case when marks between 0
    and 9 then 1 when marks between 10
    and 19 then 2 when marks between 20
    and 29 then 3 when marks between 30
    and 39 then 4 when marks between 40
    and 49 then 5 when marks between 50
    and 59 then 6 when marks between 60
    and 69 then 7 when marks between 70
    and 79 then 8 when marks between 80
    and 89 then 9 when marks between 90
    and 100 then 10 end as Grades
  from
    students
)
select
  new.new_,
  new.grades,
  new.marks
from
  (
    select
      name,
      marks,
      grades,
      case when grades >= 8 then name else Null end as new_
    from
      grade
    order by
      grades desc,
      name asc
  ) new
order by
  new.grades desc,
  new.new_ asc;

```

More effective Solution :

```
SELECT
  CASE WHEN Grades.grade ≥ 8 THEN name ELSE 'NULL' END,
  Grades.grade,
  marks
FROM
  Students
  JOIN Grades ON Grades.Min_Mark ≤ Students.Marks
  AND Grades.Max_Mark ≥ Students.Marks
ORDER By
  Grades.grade DESC,
  name,
  marks
```