DESCRIPTION

Table: Triangle

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

| Column Name | Type |

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

| x | int |

| y | int |

| z | int |

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

In SQL, (x, y, z) is the primary key column for this table.

Each row of this table contains the lengths of three line segments.

Report for every three line segments whether they can form a triangle.

Return the result table in **any order**.

The result format is in the following example.

Example 1:

Input:

Triangle table:

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

| x | y | z |

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

| 13 | 15 | 30 |

| 10 | 20 | 15 |

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

Output:

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

| x | y | z | triangle |

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

| 13 | 15 | 30 | No |

| 10 | 20 | 15 | Yes |

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

SOLUTION

MySQL:

- Apply The Triangle Inequality Theorem to determine if three line segments can form a triangle (i.e. the sum of the lengths of any two sides must be greater than the length of the third side.) If this condition holds true for all three possible combinations of side pairs, then the segments can form a triangle.
- Select the desired columns
- Determine whether x, y and z can form a triangle with three conditions using an IF clause with AND

```
SELECT x, y, z, IF(x+y>z AND x+z>y AND y+z>x, 'Yes','No') triangle
FROM Triangle;
```

PostgreSQL:

- Similar approach as above using CASE WHEN with OR

```
SELECT x, y, z, CASE WHEN (x+y <= z) OR (x+z <= y) OR (y+z <= x) THEN 'No' ELSE 'Yes'
END triangle
FROM Triangle;
```