Type of Triangle

HackerRank

Write a query identifying the *type* of each record in the **TRIANGLES** table using its three side lengths. Output one of the following statements for each record in the table:

- **Equilateral**: It's a triangle with 3 sides of equal length.
- **Isosceles**: It's a triangle with 2 sides of equal length.
- **Scalene**: It's a triangle with 3 sides of differing lengths.
- **Not A Triangle**: The given values of *A*, *B*, and *C* don't form a triangle.

Input Format

The **TRIANGLES** table is described as follows:

Column	Type
A	Integer
B	Integer
C	Integer

Each row in the table denotes the lengths of each of a triangle's three sides.

Sample Input

A	B	C
20	20	23
20	20	20
20	21	22
13	14	30

Sample Output

```
Isosceles
Equilateral
Scalene
Not A Triangle
```

Explanation

Values in the tuple $(20, 20, 23)$ form an Isosceles triangle, because $A \equiv B$.
Values in the tuple $(20, 20, 20)$ form an Equilateral triangle, because $A \equiv B \equiv C$. Values in the tuple $(20, 21, 22)$ form a Scalene triangle, because $A \neq B \neq C$.

Values in the tuple $(13, 14, 30)$ cannot form a triangle because the combined value of sides A and B is not larger than that of side C.

Solution:

```
SELECT
  CASE
    WHEN A + B <= C OR A + C <= B OR B + C <= A THEN
'Not A Triangle'
    WHEN A = B AND B = C THEN 'Equilateral'
    WHEN A = B OR B = C OR A = C THEN 'Isosceles'
    ELSE 'Scalene'
  END AS TriangleType
FROM TRIANGLES;
```