

# Counting Lucky Numbers

Find out how many numbers between a and b (inclusive) when represented as binary numbers have sum of digits lucky.

A number is lucky if its decimal representation contains digits 4 and 7 only.

eg. 4, 7, 47, 77 etc. where as 14, 41 etc. are not.

Note that  $0 \leq a \leq b \leq 10^{19}$ .

## Input

T: number of test cases  $T \leq 10^5$

Next T lines have a and b in every line.  $a \leq b$

## Output

for every test case output as described in problem statement

## Example

**Input:**

2

15 15

63 63

**Output:**

1

0