

Almost Palindromes

September 2025

C++ — 2 SEC — 512 MB

Tina loves palindromes (her surname is Anit, afterall!). A palindrome is a number that reads the same forwards and backwards. For example, 12421 is a palindrome but 123421 is not. Leading zeroes are always ignored so 100 is not a palindrome.

Recently, Tina's long-lost prodigal half-brother, Liam Nail, has returned home. Liam loves *almost* palindromes. An almost palindrome is a number that is not a palindrome but would be a palindrome if exactly one digit was changed. Again, leading zeroes are always ignored.

For example, 1234321 and 19381 are both almost palindromes. However, 12321 is not an almost palindrome as it is already a palindrome, and 134521 is not an almost palindrome as there is no way to change exactly one digit to produce a palindrome.

Liam wants to now how many almost palindromes there are between **a** and **b** (inclusive).

INPUT You will be given two integers, **a** and **b**.

$$1 \leq a \leq b \leq 2^{60}$$

OUTPUT Output the number of almost palindromes between **a** and **b** (inclusive).

SAMPLE There are 6 almost palindromes between 1234 and 1300. These are: 1241, 1251, 1261, 1271, 1281, and 1291.

INPUT

1234 1300

4321 5000

1 1000000

OUTPUT

6

125

43012