**[Shortest Prime Path](https://practice.geeksforgeeks.org/problems/1646a9b5169d7571cf672f2a31533af083d1f479/1)**

You are given two four digit prime numbers **Num1**and **Num2.** Find the distance of the shortest path from Num1 to Num2 that can be attained by altering only one single digit at a time. Every number obtained after changing a digit should be a four digit prime number with no leading zeros.

**Example 1:**

**Input:**

Num1 = 1033

Num2 = 8179

**Output:** 6

**Explanation:**

1033 -> 1**7**33 -> **3**733 -> 373**9** -> 37**7**9

-> **8**779 -> 8**1**79.

There are only 6 steps required to reach

Num2 from Num1, and all the intermediate

numbers are 4 digit prime numbers.

**Example 2:**

**Input:**

Num1 = 1033

Num2 = 1033

**Output:**

0

**Your Task:**    
You don't need to read input or print anything. Your task is to

1. Complete the **constructor of the class Solution** to precompute a list of prime numbers.
2. Complete function **shortestPath**() which takes two integers Num1 and Num2 as input parameters and returns the distance of the shortest path from Num1 to Num2. If it is unreachable then return -1.

**Expected Time Complexity:** O(NlogN)  
**Expected Auxiliary Space:** O(N)

**Constraints:**  
1000 ≤ Num1,Num2 ≤ 9999  
Num1 and Num2 are prime numbers.