

Math

Input: 10
Output: false
Explanation: Reads 01 from right to left. Therefore it is not a palindrome.

Two tips. ① 110's reverse is 011 which should be 11 should return False
② You don't need to reverse the whole number. For example.
12321.
temp = temp * 10 + num % 10
num = num // 10
You can stop when temp > num.
here temp = 123 and num = 12.
if temp == num or temp // 10 == num
return True

```
M = ["", "M", "MM", "MMM"]
C = ["", "C", "CC", "CCC", "CD", "D", "DC", "DCC", "DCCC", "CM"]
X = ["", "X", "XX", "XXX", "XL", "L", "LX", "LXX", "LXXX", "XC"]
I = ["", "I", "II", "III", "IV", "V", "VI", "VII", "VIII", "IX"]
return M[num//1000] + C[(num%1000)//100] + X[(num%100)//10] + I[num%10];
```

Input: 38
Output: 2
Explanation: The process is like: 3 + 8 = 11, 1 + 1 = 2.
Since 2 has only one digit, return it.

return 0 if num == 0 else (num - 1) % 9 + 1

2 ~~Add Two Numbers (/problems/add-two-numbers)~~

✓ 13 Roman to Integer (/problems/roman-to-integer)

9 Palindrome Number (/problems/palindrome-number)

✓ 12 Integer to Roman (/problems/integer-to-roman)

7 Reverse Integer (/problems/reverse-integer) $[-2^{31}, 2^{31} - 1]$.

535 ~~Encode and Decode TinyURL (/problems/encode-and-decode-tinyurl)~~

66 ~~Plus One (/problems/plus-one)~~

258 Add Digits (/problems/add-digits)

149 ~~Max Points on a Line (/problems/max-points-on-a-line)~~

Will do this in hashtable

✓ 67 Add Binary (/problems/add-binary)

202 ~~Happy Number (/problems/happy-number)~~

171 ~~Excel Sheet Column Number (/problems/excel-sheet-column-number)~~

50 ~~Pow(x, n) (/problems/powx-n)~~

172 Factorial Trailing Zeroes (/problems/factorial-trailing-zeroes)

No other tricks, can skip

5	10	15	20	25
1	2	3	4	5

res = 0 + 1 for 25

8 ~~String to Integer (atoi) (/problems/strir~~

233 ~~Number of Digit One (/problems/numt~~

273 ~~Integer to English Words (/problems/ir~~

728 ~~Self Dividing Numbers (/problems/self~~

319 ~~Bulb Switcher (/problems/bulb-switch~~

223 ~~Rectangle Area (/problems/rectangle-area)~~

29 ~~Divide Two Integers (/problems/divide-two-integers)~~

✓ 268 Missing Number (/problems/missing-number)

326 ~~Power of Three (/problems/power-of-three)~~

43 ~~Multiply Strings (/problems/multiply-strings)~~

```
1 class Solution:
2     def countDigitOne(self, n):
3         """
4         :type n: int
5         :rtype: int
6         """
7
8         ones, m = 0, 1
9         while m <= n:
10             ones += (n//m + 8) // 10 * m + (n//m % 10 == 1) * (n%m + 1)
11             m *= 10
12         return ones
```

Input: 5
Output: 1
Explanation: 5! = 120, one trailing zero.

✓ 279 ~~Perfect Squares (/problems/perfect-squares)~~

335 Self Crossing (/problems/self-crossing)

204 Count Primes (/problems/count-primes)

453 Minimum Moves to Equal Array Elements (/problems/minimum-moves-to-equal-array-elements)

69 Sqrt(x) (/problems/sqrtx)

65 Valid Number (/problems/valid-number)

224 Basic Calculator (/problems/basic-calculator)

```
if n < 3:
    return 0
primes = [True] * n
primes[0] = primes[1] = False
for i in range(2, int(n ** 0.5) + 1):
    if primes[i]:
        primes[i * i: n: i] = [False] * len(primes[i * i: n: i])
return sum(primes)
```

Write a program to find the n -th ugly number.

Ugly numbers are **positive numbers** whose prime factors only include **2, 3, 5**.

Example:

Input: $n = 10$
Output: 12
Explanation: 1, 2, 3, 4, 5, 6, 8, 9, 10, 12 is the sequence of the first 10 ugly numbers.

Note:

1. 1 is typically treated as an ugly number.
2. n does not exceed 1690.

Example 1:

Input: numerator = 1, denominator = 2
Output: "0.5"

Example 2:

Input: numerator = 2, denominator = 1
Output: "2"

Example 3:

Input: numerator = 2, denominator = 3
Output: "0.(6)"

413 Arithmetic Slices (/problems/arithmetic-slices)

Example 1:

Input: [1,2,3]
Output: 6

Example 2:

Input: [1,2,3,4]
Output: 24

628 Maximum Product of Three Numbers (three-numbers)

$O(1)$ space $O(n)$ time

166 Fraction to Recurring Decimal (/problems/fraction-to-recurring-decimal)

357 Count Numbers with Unique Digits (/problems/count-numbers-with-unique-digits)

Given a **non-negative** integer n , count all numbers with unique digits, x , where $0 \leq x < 10^n$.

Example:

Input: 2
Output: 91
Explanation: The answer should be the total numbers in the range of $0 \leq x < 100$, excluding 11,22,33,44,55,66,77,88,99

264 Ugly Number II (/problems/ugly-number-ii)

343 Integer Break

Given a positive integer n , break it into the sum of **at least** two positive integers and maximize the product of those integers. Return the maximum product you can get.

✓ 60 Permutation Sequence (/problems/permutation-sequence)

$$|p2.x - p1.x| + |p2.y - p1.y|$$

Example:

Input:

```
1 - 0 - 0 - 0 - 0 - 1
|   |   |   |   |
0 - 0 - 0 - 0 - 0 - 0
|   |   |   |   |
0 - 0 - 1 - 0 - 0 - 0
```

Output: 6

- "123"
- "132"
- "213"
- "231"
- "312"
- "321"

Given n and k , return the k^{th} permutation sequence.

296 Best Meeting Point (/problems/best-meeting-point)

372 Super Pow (/problems/super-pow)

812 Largest Triangle Area (/problems/largest-triangle-area)

400 Nth Digit (/problems/nth-digit)

368 Largest Divisible Subset (/problems/largest-divisible-subset)

313 Super Ugly Number (/problems/super-ugly-number)

537 Complex Number Multiplication (/problems/complex-number-multiplication)

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- 829 [Consecutive Numbers Sum \(/problems/consecutive-numbers-sum\)](/problems/consecutive-numbers-sum)
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- 885 [Spiral Matrix III \(/problems/spiral-matrix-iii\)](/problems/spiral-matrix-iii)
- 247 [Strobogrammatic Number II \(/problems/strobogrammatic-number-ii\)](/problems/strobogrammatic-number-ii) 🔒
- 248 [Strobogrammatic Number III \(/problems/strobogrammatic-number-iii\)](/problems/strobogrammatic-number-iii) 🔒

- 592 [Fraction Addition and Subtraction \(/problems/fraction-addition-and-subtraction\)](/problems/fraction-addition-and-subtraction)
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- 523 [Continuous Subarray Sum \(/problems/continuous-subarray-sum\)](/problems/continuous-subarray-sum)
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- 483 [Smallest Good Base \(/problems/smallest-good-base\)](/problems/smallest-good-base)
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- 866 Prime Palindrome (/problems/prime-palindrome)
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- 789 Escape The Ghosts (/problems/escape-the-ghosts)
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- 356 Line Reflection (/problems/line-reflection) 🔒
- 927 Three Equal Parts (/problems/three-equal-parts)
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- 963 Minimum Area Rectangle II (/problems/minimum-area-rectangle-ii)