

Limited Factor Number

A limited factor number is a positive integer whose factors consist only of the values 2, 3, and 5. Given a positive integer x , determine if it is a limited factor number.

Return true if x is a limited factor number and false otherwise.

Example 1:

Input: $x = 6$

Output: true

Explanation: $6 = 2 \times 3$

المثال الأول

```
def is_limited_factor_number(x):
    # Check divisors 2, 3, and 5
    for factor in [2, 3, 5]:
        while x % factor == 0: # Divide x by factor as long as it is
            # divisible
            x //= factor

    # If x becomes 1, it is a limited factor number
    return x == 1
```

Example 2:

Input: $x = 1$

Output: true

Explanation: 1 has no prime factors, therefore all of its prime factors are limited to 2, 3, and 5.

المثال الثاني

```
def is_limited_factor_number(x):
    # Check divisors 2, 3, and 5
    for factor in [2, 3, 5]:
        while x % factor == 0: # Divide x by factor as long as it is
            # divisible
            x //= factor

    # If x becomes 1, it is a limited factor number
    return x == 1
```

Example 3:

Input: $x = 14$

Output: false

Explanation: 14 is not since it includes the prime factor 7.

المثال الثالث

```
def is_limited_factor_number(x):
    # Check divisors 2, 3, and 5
    for factor in [2, 3, 5]:
        while x % factor == 0: # Divide x by factor as long as it is
            # divisible
            x //= factor

    # If x becomes 1, it is a limited factor number
    return x == 1
```