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## Perfect primes

**P22467\_en**

Given a natural number  $n$ , let  $s(n)$  be the sum of the digits of  $n$ . In this exercise, we say that  $n$  is a perfect prime if the infinite sequence  $n, s(n), s(s(n)), \dots$  only contains prime numbers. For instance, 977 is a perfect prime, because  $977, 9 + 7 + 7 = 23, 2 + 3 = 5, 5, \dots$ , are all prime numbers.

Write a recursive function that tells if a natural number @n@ is a perfect prime or not.

### Interface

```
C++    bool is_perfect_prime (int n);
C      int is_perfect_prime (int n);
Java   public static boolean isPerfectPrime(int n);
Python  is_perfect_prime (n)  # returns bool
        is_perfect_prime (n: int) -> bool
```

### Precondition

We have @n@  $\geq 0$ .

### Observation

You only need to submit the required procedure; your main program will be ignored.

### Problem information

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