

---

## Chain of primes

X62405\_en

---

You have to program the function *has\_prime\_chain* below. Remember that a non negative integer  $n$  is prime if and only if  $n$  is greater than one and the only divisors of  $n$  are one and  $n$ . The following auxiliar function may be helpful.

```
def is_prime(n):  
    '''  
    Requires a non negative integer n.  
    Returns True when n is prime  
    Returns False when n is not prime  
    '''  
    if n < 2:  
        return False  
    d = 2  
    while d*d <= n:  
        if n%d == 0:  
            return False  
        d += 1  
    return True
```

- Write a function *has\_prime\_chain(f, k)* that given a list  $f$  of non negative integers and an integer  $k$  greater than zero returns the first valid index of  $f$  where a chain of primes of size  $k$  starts. If there is no such valid index it has to return  $-1$ . A chain of primes is a block of consecutive numbers in the list all of them being prime, delimited by non prime numbers or the ends of the list.

### Scoring

The function counts 100 points.

### Sample session

```
>>> has_prime_chain([6, 2, 3, 5, 2], 3)  
-1  
>>> has_prime_chain([6, 2, 3, 5, 2], 4)  
1  
>>> has_prime_chain([1, 2, 3, 4, 5, 7, 11], 3)  
4  
>>> has_prime_chain([2, 3, 4, 5, 6, 7], 1)  
3
```

### Problem information

Author :

Generation : 2024-07-10 12:21:46

© Jutge.org, 2006–2024.

<https://jutge.org>