Algorithm 3 – highest common factor

This algorithm calculates the highest common factor of two numbers – that is, the highest value which can be divided into two given numbers without leaving a remainder. For example, with the numbers 12 and 16, the highest common factor will be 4.

```
1    num1 = int(input("Value 1: "))
2    num2 = int(input("Value 2: "))
3    while num1 != num2:
4        if num1 > num2:
5            num1 = num1 - num2
6        else:
7            num2 = num2 - num1
8    print(num1)
```

Trace the values of num1 and num2 through the algorithm when the values 15 and 39 are entered.

num1	num2
15	39

What will happen If a prime number is entered in either (or both) of num1 or num2?
Why does line 8 only need to print one of the numbers?