

## Exercise 5 - testing “SumPrimes”

```
int sumPrimes(int len) {
    int sum = 0;
    for ( int i=1; i < len; i++ ) { // loop over possible primes
        bool prime = true;
        for (int j=1; j < 10; j++) { // loop over possible factors
            if (i % j == 0) prime = false;
        }
        if (prime) sum += i;
    }
    return sum;
}
```

Should “len” be included or not?

Its OK for a prime number to be divisible by one

If you divide a number by itself, the remainder is zero

### **Lesson 1: Its not easy to understand somebody else’s code**

- Assumptions, reasons are hard to see
  - “Is one a prime number?”
  - Test defines the behavior!! `assertTrue(sumPrimes(1)==1)`

### **Lesson 2: Better structure would have helped**

- Separate “isPrime” from counting loop to allow separate understanding
- Make the algorithm for checking prime even clearer

## **Exercise 5 - isCube, isSquare, et al**

### **New bugs:**

- Just introduced
- Newly discovered in another area
- Newly understood to be bugs

**Too many possibilities, how do you keep track?**

**This is why large projects get harder as you go along!**