21. If $d(A)$ is the sum of the proper divisors of A, if

$$d(A) = B$$
$$d(B) = A, \quad B \neq A$$

then A is an amicable number. What is the sum of the amicable numbers under 10000?

```
def proper_factors(n)
  1.upto(n/2).to_a.select do |num|
    (n % num).zero?
  end.sum
end

def amicable?(n)
  a = proper_factors(n).sum
  b = proper_factors(a).sum
  b == n && a != n
end

def amicable_sum(n)
  1.upto(n).to_a.select do |num|
    amicable?(num)
  end.sum
end
```