

## 10200 Prime Time

Euler is a well-known mathematician, and, among many other things, he discovered that the formula  $n^2 + n + 41$  produces a prime for  $0 \leq n < 40$ . For  $n = 40$ , the formula produces 1681, which is  $41 * 41$ . Even though this formula doesn't always produce a prime, it still produces a lot of primes. It's known that for  $n \leq 10000000$ , there are 47,5% of primes produced by the formula!

So, you'll write a program that will output how many primes does the formula output for a certain interval.

### Input

Each line of input will be given two positive integer  $a$  and  $b$  such that  $0 \leq a \leq b \leq 10000$ . You must read until the end of the file.

### Output

For each pair  $a, b$  read, you must output the percentage of prime numbers produced by the formula in this interval ( $a \leq n \leq b$ ) rounded to two decimal digits.

### Sample Input

```
0 39
0 40
39 40
```

### Sample Output

```
100.00
97.56
50.00
```