Haskell — Computations (1) P13133_en

These problems are inspired in some of the problems from Project Euler. You can find them at https://projecteuler.net.

- Write a function *sumMultiples35* :: **Integer** → **Integer** that, given a natural n, returns the sum of all mutiples of 3 or 5 below n.
- Write a function *fibonacci* :: **Int** → **Integer** that, given a natural n, returns the n-th element of the Fibonacci sequence.
- Write a function *sumEvenFibonaccis* :: **Integer** → **Integer** that, given a natural n, returns the sum of all even elements less than n in the Fibonacci sequence.
- Write a function *largestPrimeFactor* :: **Int** → **Int** that, given a natural $n \geq 1$, returns the greatest prime factor of n.
- Write a function *isPalindromic* :: **Integer** → **Bool** that, given a natural n, returns whether n is palindromic, that is, if n can be read in the same way from left to right than from right to left.

Scoring

- **test-1a:** Function *sumMultiples35* for $n \leq 1000$. **10 Points**
- **test-1b:** Function *sumMultiples35* for big n. **10 Points**
- **test-2a:** Function *fibonacci* for $n \leq 20$. **10 Points**
- **test-2b:** Function *fibonacci* for big n. **10 Points**
- **test-3:** Function *sumEvenFibonaccis*. **20 Points**
- **test-4:** Function *largestPrimeFactor*. **20 Points**
- **test-5:** Function *isPalindromic*. **20 Points**

Sample input 1

```
sumMultiples35 10
fibonacci 10
sumEvenFibonaccis 10
largestPrimeFactor 13195
isPalindromic 9062609
```

Sample output 1

```
23
55
10
29
True
```

Problem information

Author: Jordi Petit
Translator: Jordi Petit

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