CMPS 350 · Web Development Fundamentals

Tutorial 01 · Higher-Order Functions

Use the `script.js` file provided to test and implement the following:

1. `max(a0, a1, ..., ak)`: returns the maximum of the arguments provided using `Math.max`, the spread syntax, and the rest parameter syntax.
2. `range(a, b)`: returns the range of integers $[a, a + 1, \ldots, b - 1, b]$.
3. `rand(a, b)`: returns a random integer in $[a, b[$ using `Math.rand`.
4. `randoms(n, a, b)`: returns an array of n elements sampled randomly in the range $[a, b[$.
5. `factorial(n)`: returns the factorial of n, that is, $n! = n \cdot (n - 1) \cdot \cdots \cdot 2 \cdot 1$ using `Array.reduce`.
6. `divisors(n)`: returns the divisors of n using `Array.filter`.
7. `isPrime(n)`: returns whether n is prime or not using `Array.every`.
8. `primeProduct(a, b)`: returns the product of the prime numbers in $[a, b]$ using `Array.filter` and `Array.reduce`.
9. `tally(array)`: returns the running total of an array using `Array.reduce` and the spread syntax.
10. `reverse(array)`: returns the reverse of an array using `Array.reduce` and the spread syntax.

Validate your results using the sample run in `output.txt`.