Programming Practice 7

CSE1100 - Introduction to Programming

1 Lambdas

Implement the four given methods in `Functions`:

- `randomNumberSupplier()`: Returns a supplier that returns a random integer between 0 and 10 each time (0...9, 10 not included). You can use `Math.random()` to get a random double between 0.0 and 1.0.
- `stringWriter(Writer)`: Returns a consumer of strings that will write the given string to the writer.
- `stringRepeater()`: Returns a function that will take a string and a number, and return the string repeated that many times, e.g. `stringRepeater().apply("abc", 3)` should return `"abcabcabc"`.
- `isPassing()`: Returns a predicate that takes two grades, the theory exam grade and the programming exam grade (order is irrelevant). The predicate should return true if you pass OOP with these two grades. As a reminder, to pass you need a 5.0 or higher for both exams, and the average of the two should be at least 5.8.

Tests have been provided.

2 Reading

You are given a `CityReader` that reads cities from a CSV (comma-separated value) input. The file is formatted as follows:

```
Amsterdam,821752,Noord-Holland,219.32
Delft,106184,Zuid-Holland,24.06

Rotterdam,588490,Zuid-Holland,324.10


Utrecht,368024,Utrecht,99.21
```

Every line contains the city name, population, province, and area separated by commas. Additionally, there might be any number of empty lines, which should be ignored.

There already is an implementation that reads the input correctly: `readCitiesImperative`, but we suspect this method could be a bit more clear written in a functional style. Implement `readCitiesFunctional`, which reads the cities in a functional style. Do **not** use `.toList()` or `.collect()`.

A test has been provided.