11. Algorithmisation Practice #3

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February 3, 2019

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Exercises

1. Write a program that computes an approximation of π using whatever method
2. Write a function that returns all values and positions of inflection points of a vector that represents a function
3. Write a *find and replace* program that affects all files supplied as arguments

Advanced Exercises

1. Write a function that reads a C++ source code file and renames a method (leaving other methods of other classes with the same name alone)

2. Write a function that generates random nonsense that looks like C++ code

Exercises #2

1. Write a function that computes sine using Taylor's series up to third element, compare its speed and precision to the sine function in cmath

2. Write a program that reads a file and writes down everything that was written in brackets inside the file (brackets can be in brackets too, but they are always ended properly)

3. Write a convenience function that gets two vectors of same size and returns a vector of pairs

Homework

- Write a program that indents a C++ source code file, using curly braces to determine the depth
- You have two weeks to do it
- Challenge for the Advanced: use also `if`, `while` and `for` controllers to indent the next line