5. Algorithmisation Practice

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Table of Contents

Exercises

1. Write a program that reads two files containing vectors and writes their element-by-element sum
2. Write a program that reads a file containing a matrix and outputs a transposed matrix
3. Write a program that will read two files containing matrices and write the matrix product in a third file
4. Write a program that reads a file containing values of a function and outputs its local minima and maxima

Advanced Exercises

1. Write a program that reads a matrix from a file and computes its determinant
2. Write a program that checks if a matrix is invertible
3. Write a program that reads a file containing a table, removes elements that contains letters and replaces them with interpolated values

Exercises #2

1. Write a program that reads a file defining a function and outputs the function smoothed
2. Write a program that outputs steps of Conway's Game of Life, eath input from user causes it to make a step
3. Write a program that prints a cross (using spaces and some letter) with edge size set by user input

Homework

- Write a program that reads two files containing functions
  defined as dependences of y on x and outputs their
  intersections
- You have two weeks to do it