

Instructions

Your starting point for this Homework is a Python program that processes ultra-large integers. (Note that in Python, the int datatype supports ultra-large integers.)

Your task: Make the given Python program faster by:

(Optional) Optimizing the Python algorithm.

(Required) Rewriting parts of the Python implementation in C/C++, including a C/C++ data structure for ultra-large integer calculations.

Given files:

hw1.py: Do not modify this file.

count_pairs.py: Modify this file so that the hw1.py program runs faster.

A sample input file (inputs.txt)

What you should submit: A single .zip file containing

The modified count_pairs.py file that calls your C/C++ code appropriately.

A C/C++ header file (the ADT for your ultra-large integers)

A C/C++ code file (an implementation of your ADT)

A Makefile to compile your C/C++ code