TP02: Computing with Large Integers

Hao CHENG

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1 Addition

Running the program *large_integer_addition* to implement the addition of two large integers.

In this source code file, I use a struct to define the large integer, which contains the $intsize$ and $int * tab$ to represent the length of this integer and the content of this integer.

2 Fibonacci Sequence

Running the program $fibonacci\_sequence$ to get the result of fibonacci sequence. This source code includes the *large_integer_addition.h*, using the large integer addition function.

$$fibonacci(101) = 927372692193078999176$$

3 Multiplication

Running the program *large_integer_multiplication* to implement the addition of two large integers.

4 Factorial

Running the program $factorial$ to implement the addition of two large integers. This source code includes the *large_integer_multiplication.h*, using the large integer multiplication function.

$$40! = 815915283247897734345611269596115894272000000000$$

5 Modular Exponentiation

Using the command *python expmod.py number number modulus* to run the script.