QCG II PRNG

PRNG using recursion:

$$x_0 = (seed) mod M$$

$$x_n = (ax_{n-1}^2 + bx_{n-1} + c) mod M$$

Where defaults are: a = 2, b = 3, c = 1

Input

All inputs are explained in *-h*. To find out more, skip to *Usage* section.

Results

As a result you get *.pkl file* generated in specified directory with specified name, given after *–output-file* flag. If none, there is a default name given (check Usage section).

Usage

To use *QCG II*, you need to run *z3qcg2.py* using python version 3 with installed *time*, *argparse* and *pickle* packages.
To learn how to use this PRNG, it is advised to run programme with one of the following commands:

```
python3 z3qcg2.py --help
python3 z3qcg2.py -h
```

Examples

```
python3 z3qcg2.py --output-file 'numbers.pkl'  #saves results in file 'numbers.pkl' in working directory
python3 z3qcg2.py -n 10000  #generates 10000 numbers
python3 z3qcg2.py -n 10 -M 16 --seed 666  #generates 10 numbers with modulus equal to 16 and seed 666
python3 z3qcg2.py -a 3 -b 17 -c 100  #generates numbers with specific recursion
python3 z3qcg2.py --output-file ' '  #does not generate file, only prints out numbers on the screen
```