

Home Assignment 1

The program:

Your program must perform three different tasks in high precision.

- The first task is to print the Pi number for N digits. Pi is defined in <https://en.wikipedia.org/wiki/Pi>
- The second task is to print the Nth prime number. Prime numbers are defined in https://en.wikipedia.org/wiki/Prime_number
- The last task is to print the Nth Fibonacci number. Fibonacci numbers are defined in https://en.wikipedia.org/wiki/Fibonacci_number

Input using the argparse library:

one string ('task') and one integer number ('N')

Output:

The answer should be printed to the terminal (use print() function). While printing, **every 40 digits** will be printed in a new line.

Constraints:

You can **only use** the argparse library.

Some Examples:

- Input: python sample.py --task=pi --N=37,
Output: 3.1415926535897932384626433832795028841
- Input: python sample.py --task=pi --N=56,
Output: 3.14159265358979323846264338327950288419
716939937510582097
- Input: python sample.py --task=fibonacci --N=0,
Output: wrong input
- Input: python sample.py --task=fibonacci --N=153,
Output: 42230279526998466217810220532898
- Input: python sample.py --task=prime --N=2,
Output: 3
- Input: python sample.py --task=check --N=153,
Output: wrong input

Pay Attention:

- 'task' can be any string, but only the strings: 'pi', 'prime', 'fibonacci' will operate the program. For any other string, the script will print 'wrong input' and exit.
- 'N' can be any integer, but only for an integer between **1 to 1000**, the script will operate. For any other integer, the script will print 'wrong input' and exit.
- You should submit a **single .py** file through the Moodle website with the name of **YOUR_ID_NUMBER.py** where YOUR_ID_NUMBER should be your id number.
- The run time is limited to one second.
- Avoid copying!