Dear candidate,

Thank you for showing interest in joining our dynamic organisation. As part of the Corigine recruitment process, we have designed a solution-driven challenge to evaluate technical problem-solving capabilities.

You need to create a program that solves a numerical algorithmic problem described below. The task is designed to evaluate your ability to utilise new tools, coding, documentation, and error checking. Good luck!

Algorithmic Problem:

The Fibonacci sequence is defined by the recurrence relation:

$F_n = F_{n-1} + F_{n-2}$, where $F_1 = 1$ and $F_2 = 1$.

Hence the first 12 terms will be:

$F_1 = 1$
$F_2 = 1$
$F_3 = 2$
$F_4 = 3$
$F_5 = 5$
$F_6 = 8$
$F_7 = 13$
$F_8 = 21$
$F_9 = 34$
$F_{10} = 55$
$F_{11} = 89$
$F_{12} = 144$

The 7th term, F_7, is the first term to contain two digits.
The 12th term, F_{12}, is the first term to contain three digits.
Write a program to find the index of the first term in the Fibonacci sequence to contain N digits, where N is passed in on the command line.

Requirements

Your solution should adhere to the following:

- Use Python3.
- Use numpy for all math operations.
- If possible, avoid casting variables.
- Follow good programming practices.
- Be packaged and executable as a Docker container (see sample output below).

Sample output

```
$ docker run --rm fibonacci-term 2
>>
7
$ docker run --rm fibonacci-term 3
>>
12
$ docker run --rm fibonacci-term 10
>>
45
```

Submission

Provide a compressed tarball `<yourname>.tar.gz` of the Docker build directory, containing everything needed to build a Docker container with the above-described functionality from source code. Initialise the build directory as a Git repo and include a README in Markdown, which describes the program.