

Foundations of Computer Science

Computer

Turing - complete device?

System

CPU - processing

tools

Simulation

takes input

Automation

Stores information.

machine

Code / instructions.

Science

investigation of nature

Everything!

Study of something from everyday life.

method of problem solving /

Answering questions.

Explaining

Start with a number n .

Repeat the following until $n=1$:

If n is even, divide it by 2.

Otherwise, multiply n by 3 then add 1.

Output the number of repetitions needed to reach 1.

$n: 5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$

(5)