

Pseudocode examples

CSCI 150, Fall 2003

Counting up

Read number n and print the integers counting up to n .

Read n .
Initialize i to 1.
while $i \leq n$, **do**:
 Write i .
 Increment i .
end while
Stop.

Power of two

Read number n and print 2^n .

Read n .
Initialize $power$ to 1.
repeat n **times**:
 Double $power$.
end repeat
Write $power$.
Stop.

Summing consecutive integers

Read number n and print the sum of the integers up to n ,

$$1 + 2 + \dots + n .$$

Read n .
Initialize i to 1.
while $i \leq n$, **do**:
 Increase sum by i .
 Increment i .
end while
Write sum .
Stop.

Multiplication

Read numbers m and n and print $m \cdot n$.

Read m .
Read n .
Initialize sum to 0.
repeat n **times**:
 Increase sum by m .
end repeat
Print sum .
Stop.

Fibonacci sequence

Read number n and print the first n numbers in Fibonacci sequence. The Fibonacci sequence,

$$\langle 1, 1, 2, 3, 5, 8, 13, \dots \rangle ,$$

begins with two 1's, and each successive number is the sum of the preceding two numbers (e.g., $13 = 5 + 8$).

Read n .
Initialize a to 1.
Initialize b to 1.
repeat n **times**:
 if $a > b$, **then**:
 Increase b by a .
 Write b .
 else:
 Increase a by b .
 Write a .
 end if
end repeat
Stop.