

Fortran 95/2003 Course

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STEINBUCH CENTRE FOR COMPUTING - SCC



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Implement a program that reads a natural number n from STDIN and that prints out the sum of the first n natural numbers.

Hint: Reading of a variable from STDIN

READ *, <VARIABLE>

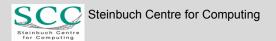
Sum of the first *n* natural numbers

$$\sum_{i=1}^n i = rac{n \; (n+1)}{2}$$





- Implement a program that reads two real numbers from STDIN.
 - Print out the sum, the difference, the product and the ratio of the two numbers.
 - Print out which number is greater or if both numbers are equal.
 - If both numbers are positive or if both numbers are negative, print out a corresponding message with the result





Implement the Euclidean algorithm for the computation of the greatest common divisor (GCD) of two integer numbers *m* and *n*. Print out the GCD.

Hint:

Read two integer numbers from STDIN.

Use an infinite DO-loop: Determine the remainder r of m/n. IF... THEN...ELSE-construct: If r is positive, compute the GCD of n and r in the next step. If r=0, the last divisor is the GCD of m and n (EXIT DO-loop).

Remainder r of m/n by intrinsic function MOD: r = MOD(m, n)





Implement a program that reads many natural one-digit numbers. If a number has more than one digit, only the last digit should be taken. The reading stops if a negative number is read. Print out how often each digit occurred.

Hint

- Define counters for each digit and initialize them to zero
- Use an infinite DO-loop and EXIT
- Use MOD to determine last digit of read number
- **Use** SELECT CASE-construct

