

Informatik für Mathematiker und Physiker - AS18

Exercise 1: The First C++ Program

Handout: 18. Sep. 2018 17:00

Due: 24. Sep. 2018 23:59

Task 2: Multiply with 29

Open Task (<https://expert.ethz.ch/solve/EqtbzkX2TTScqxnF9>)

Write a program `mul29.cpp` that reads an integer a from the standard input and outputs $29 \cdot a$ on standard output. To compute the value, your program may only use addition and assignment operations. Try to use as few additions as possible, but no more than 27. Usage of loops or other control flow operations is not allowed.

Try to explain a friend how you would do that, say with paper and pencil, in the general case: given positive integer numbers x and y , compute $x \cdot y$ using only additions (and a bit of storage).

Remark: If you do not have any programming experience with C++, we suggest that you type the first programs entirely manually and do not modify pre-built programs. So you can internalize the structure and syntax of programs and you learn a lot of small details from the very beginning. If you solely work with copy- & paste, you will have difficulties later with writing down error-free programs or parts thereof without the assistance of a compiler.

Task 1: Hello World

Open Task (<https://expert.ethz.ch/solve/J6Fi5xqkreCBvCsxb>)

Write a program `hello.cpp` that outputs `Hello World! .`