

Writing C Programs (cont)

An example of scope/lifetime:

- call a function `f()` with local variables
- variables in `f()` have same name as variables in `main()`
- changing variables in `f()` does not affect variables in `main()`

Writing C Programs (cont)

Problem: computing factorials

- get a number n
- print $n!$, defined as
 - $n! = -1$, if $n < 0$
 - $n! = 1$, if $n < 2$
 - $n! = n \times (n-1)!$ otherwise
- compute result via a function called `fac()`

Writing C Programs (cont)

Problem: computing fibonacci numbers

- get a number n
- print $fib(n)$, defined as
 - $fib(n) = -1$, if $n < 0$
 - $fib(n) = 1$, if $n < 2$
 - $fib(n) = fib(n-1) + fib(n-2)$, otherwise