



Bitwise Operators

- Bitwise operators in C perform operations on bit level.  
There are:
  - logic bitwise operators: & (bitwise AND), | (bitwise OR) and ~ (bitwise NOT).
  - shift bitwise operators: << (bitwise left shift) and >> (bitwise right shift).
- Logical shifts (zeros are shifted in) or arithmetic shifts (sign bit is shifted in).

# ...in selfie

- The semantics of the bitwise operators `<<` and `>>` on the `uint64_t` type is that of a *logical shift*.
- In selfie there are library functions that perform shift operations (see [here](#)):
  - `leftshift()`:  $n \ll b = n * 2^b$
  - `rightshift()`:  $n \gg b = n / 2^b$

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