|

[Bitwise Operators]

Description

The bitwise OR operator in C++ is the vertical bar symbol, |. Like the & operator, | operates independently each bit in its two surrounding integer expressions, but what it does is different (of course). The bitwise OR of two bits is 1 if either or both of the input bits is 1, otherwise it is 0.

In other words:

0 0 1 1 operand1

0 1 0 1 operand2

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0 1 1 1 (operand1 | operand2) - returned result

Example Code

int a = 92; // in binary: 0000000001011100

int b = 101; // in binary: 0000000001100101

int c = a | b; // result: 0000000001111101, or 125 in decimal.

One of the most common uses of the Bitwise OR is to set multiple bits in a bit-packed number.

// Note: This code is AVR architecture specific

// set direction bits for pins 2 to 7, leave PD0 and PD1 untouched (xx | 00 == xx)

// same as pinMode(pin, OUTPUT) for pins 2 to 7 on Uno or Nano

DDRD = DDRD | B11111100;