

# С# Стартовый

# ПРОЦЕДУРНОЕ ПРОГРАММИРОВАНИЕ НА ЯЗЫКЕ С#

Битовые операции



## Introduction



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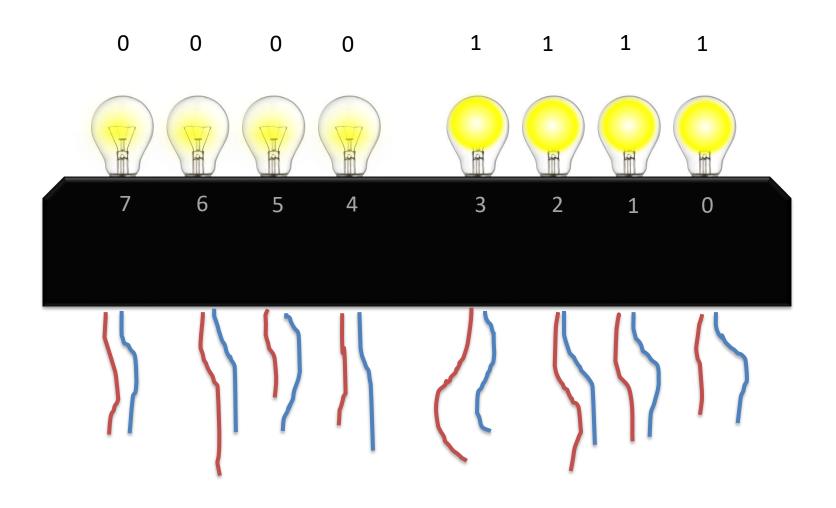


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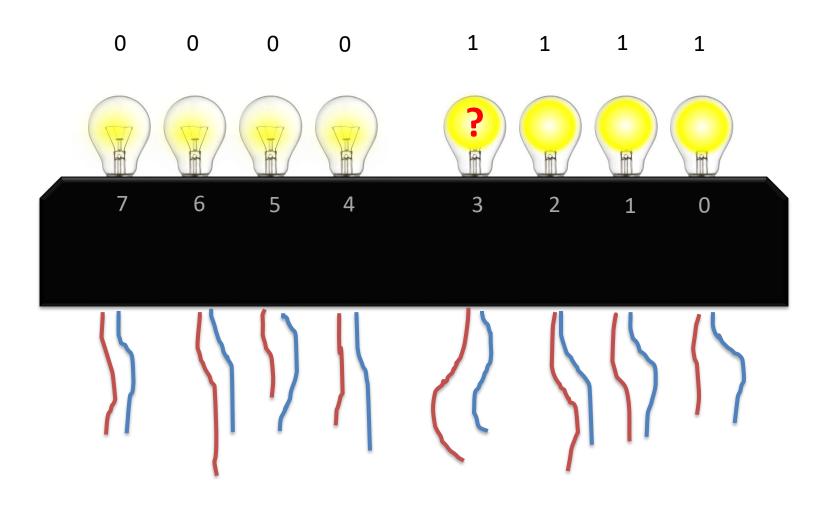
Тема урока

# Битовые операции

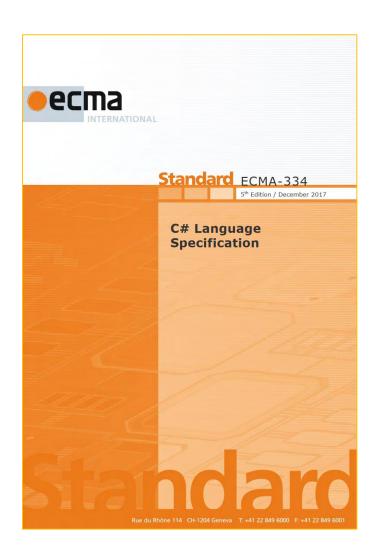












### 12.8.5 Bitwise complement operator

For an operation of the form ~x, unary operator overload resolution (§12.4.4) is applied to select a specific operator implementation. The operand is converted to the parameter type of the selected operator, and the type of the result is the return type of the operator. The predefined bitwise complement operators are:

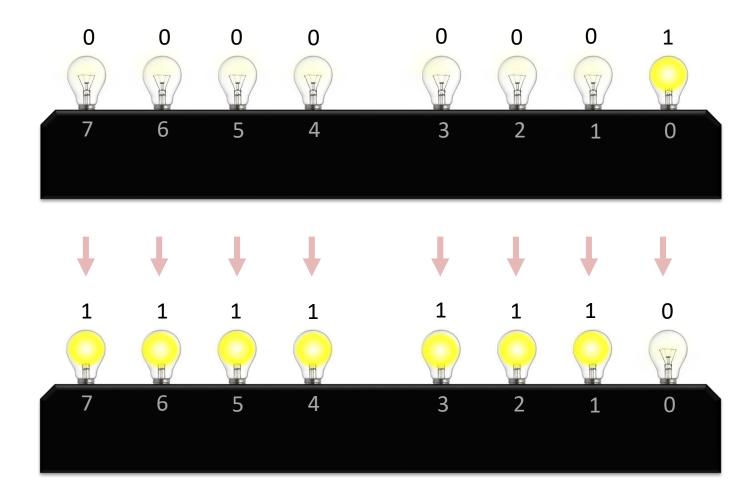
```
int operator ~(int x);
uint operator ~(uint x);
long operator ~(long x);
ulong operator ~(ulong x);
```

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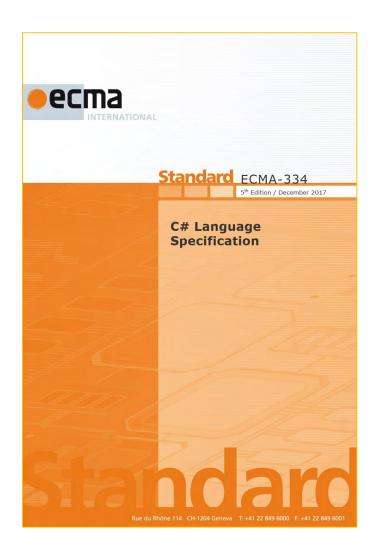
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Оператор побитового дополнения Оператор побитового отрицания Оператор побитового инвертирования









#### 12.12 Logical operators

#### 12.12.1 General

The &, ^, and | operators are called the logical operators.

#### 12.12.2 Integer logical operators

The predefined integer logical operators are:

```
int operator &(int x, int y);
uint operator &(uint x, uint y);
long operator &(long x, long y);
ulong operator &(ulong x, ulong y);
int operator |(int x, int y);
uint operator |(uint x, uint y);
long operator |(long x, long y);
ulong operator |(ulong x, ulong y);
int operator ^(int x, int y);
uint operator ^(uint x, uint y);
long operator ^(long x, long y);
ulong operator ^(ulong x, ulong y);
ulong operator ^(ulong x, ulong y);
```

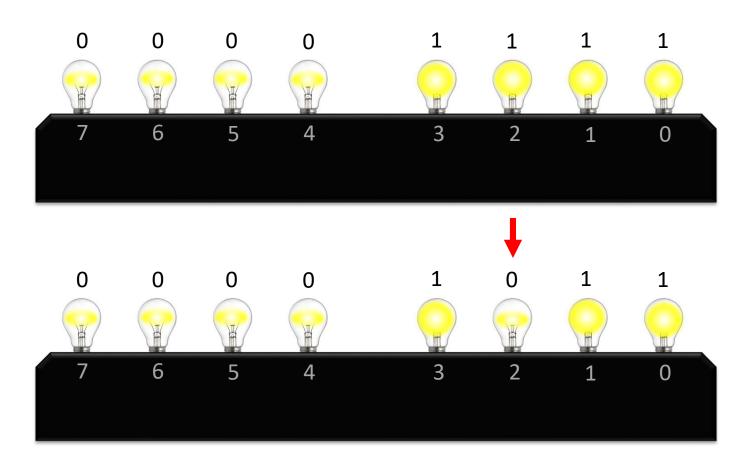
The & operator computes the bitwise logical AND of the two operands, the | operator computes the bitwise logical OR of the two operands, and the ^ operator computes the bitwise logical exclusive OR of the two operands. No overflows are possible from these operations.

Lifted (§12.4.8) forms of the unlifted predefined integer logical operators defined above are also predefined.

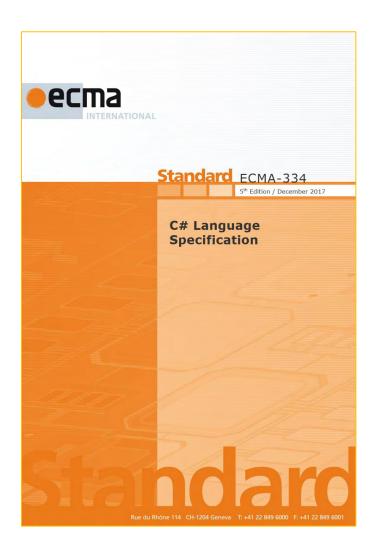


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Стр. 188







### 12.10 Shift operators

The << and >> operators are used to perform bit-shifting operations.

Стр. 179

Shift left:

```
int operator <<(int x, int count);
uint operator <<(uint x, int count);
long operator <<(long x, int count);
ulong operator <<(ulong x, int count);</pre>
```

Shift right:

```
int operator >>(int x, int count);
uint operator >>(uint x, int count);
long operator >>(long x, int count);
ulong operator >>(ulong x, int count);
```



# Спасибо за внимание! До новых встреч!



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