

# Package ‘vectorbitops’

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**Title** Vector Bitwise Operations

**Version** 1.1.2

**Description** A tool for fast, efficient bitwise operations along the elements within a vector. Provides such functionality for AND, OR and XOR, as well as infix operators for all of the binary bitwise operations.

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**Suggests** spelling, testthat (>= 3.0.0)

**Config/testthat/edition** 3

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**Infix Bitwise Operators**

*Infix operators for bitwise operations.*

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**Description**

Basic infix wrapper around the `base::bitw_OP_` operations.

**Usage**

`a %|% b`

`a %&% b`

`a %^% b`

`a %<<% n`

`a %>>% n`

**Arguments**

`a, b` Integer vectors. Numerics are coerced to integers.

`n` Non-negative integer vector of values up to 31.

**Value**

An integer vector of length of the longer of the arguments, or zero if one of the arguments is zero-length. NA input makes NA output.

`%|%`: A vector of pairwise ORed values.

`%&%`: A vector of pairwise ANDed values.

`%^%`: A vector of pairwise XORed values.

`%<<%`: A vector of the values on the LHS pairwise left-shifted by the RHS value.

`%>>%`: A vector of the values on the LHS pairwise right-shifted by the RHS value.

**Examples**

```
1 %|% 2
```

```
1 %&% 2
```

```
1 %^% 2
```

```
1 %<<% 2
```

```
8 %>>% 2
```

**Description**

Functions to apply the same bitwise operation sequentially down a vector of integers. A fast way to AND or OR everything together when a single value is required.

**Usage**

```
bit_vector_AND(vec)
```

```
bit_vector_OR(vec)
```

```
bit_vector_XOR(vec)
```

**Arguments**

`vec`                    A vector of integers. Numeric vectors will be coerced to int.

**Value**

A single integer, the result of applying the operation in question along the vector. Input that cannot be coerced to int returns NA. An empty vector returns 0.

`bit_vector_AND`: A single integer, the result of ANDing each entry in the input vector together.

`bit_vector_OR`: A single integer, the result of ORing each entry in the input vector together.

`bit_vector_XOR`: A single integer, the result of XORing each entry in the input vector together.

**Examples**

```
bit_vector_AND(c(1,3,5,7,9))
```

```
bit_vector_OR(c(1,2,4,8,16))
```

```
bit_vector_XOR(c(1,2,3,4,5))
```

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