NAME

memcmp − compare memory areas

LIBRARY

Standard C library (*libc*, *−lc*)

SYNOPSIS

#include <string.h>

int memcmp(const void *s1***[.***n***], const void** *s2***[.***n***], size_t** *n***);**

DESCRIPTION

The **memcmp**() function compares the first *n* bytes (each interpreted as *unsigned char*) of the memory areas *s1* and *s2*.

RETURN VALUE

The **memcmp**() function returns an integer less than, equal to, or greater than zero if the first *n* bytes of *s1* is found, respectively, to be less than, to match, or be greater than the first *n* bytes of *s2*.

For a nonzero return value, the sign is determined by the sign of the difference between the first pair of bytes (interpreted as *unsigned char*) that differ in *s1* and *s2*.

If *n* is zero, the return value is zero.

ATTRIBUTES

For an explanation of the terms used in this section, see **attributes**(7).

Interface	Attribute	Value
memcmp()	Thread safety	MT-Safe

STANDARDS

POSIX.1-2001, POSIX.1-2008, C99, SVr4, 4.3BSD.

NOTES

Do not use **memcmp**() to compare security critical data, such as cryptographic secrets, because the required CPU time depends on the number of equal bytes. Instead, a function that performs comparisons in constant time is required. Some operating systems provide such a function (e.g., NetBSD's **consttime_memequal**()), but no such function is specified in POSIX. On Linux, you may need to implement such a function yourself.

SEE ALSO

bstring(3), **strcasecmp**(3), **strcmp**(3), **strcoll**(3), **strncasecmp**(3), **strncmp**(3), **wmemcmp**(3)