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## ***Rocky Enterprise Linux 9.2 Manual Pages on command 'bsearch.3'***

**\$ man bsearch.3**

BSEARCH(3)

Linux Programmer's Manual

BSEARCH(3)

### NAME

bsearch - binary search of a sorted array

### SYNOPSIS

```
#include <stdlib.h>

void *bsearch(const void *key, const void *base,
              size_t nmemb, size_t size,
              int (*compar)(const void *, const void *));
```

### DESCRIPTION

The `bsearch()` function searches an array of `nmemb` objects, the initial member of which is pointed to by `base`, for a member that matches the object pointed to by `key`. The size of each member of the array is specified by `size`.

The contents of the array should be in ascending sorted order according to the comparison function referenced by `compar`. The `compar` routine is expected to have two arguments which point to the `key` object and to an array member, in that order, and should return an integer less than, equal to, or greater than zero if the `key` object is found, respectively, to be less than, to match, or be greater than the array member.

### RETURN VALUE

The `bsearch()` function returns a pointer to a matching member of the array, or `NULL` if no match is found. If there are multiple elements that match the `key`, the element returned is unspecified.

### ATTRIBUTES

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

???

?Interface ? Attribute ? Value ?

???

?bsearch() ? Thread safety ? MT-Safe ?

???

## CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C89, C99, SVr4, 4.3BSD.

## EXAMPLES

The example below first sorts an array of structures using qsort(3), then retrieves desired elements using bsearch().

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct mi {
    int nr;
    char *name;
} months[] = {
    { 1, "jan" }, { 2, "feb" }, { 3, "mar" }, { 4, "apr" },
    { 5, "may" }, { 6, "jun" }, { 7, "jul" }, { 8, "aug" },
    { 9, "sep" }, {10, "oct" }, {11, "nov" }, {12, "dec" }
};

#define nr_of_months (sizeof(months)/sizeof(months[0]))

static int
comppmi(const void *m1, const void *m2)
{
    const struct mi *mi1 = m1;
    const struct mi *mi2 = m2;
    return strcmp(mi1->name, mi2->name);
}

int
main(int argc, char **argv)
{
    qsort(months, nr_of_months, sizeof(months[0]), comppmi);
```

```
for (int i = 1; i < argc; i++) {  
    struct mi key;  
    struct mi *res;  
    key.name = argv[i];  
    res = bsearch(&key, months, nr_of_months,  
        sizeof(months[0]), compmi);  
    if (res == NULL)  
        printf("%s: unknown month\n", argv[i]);  
    else  
        printf("%s: month #%d\n", res->name, res->nr);  
}  
exit(EXIT_SUCCESS);  
}
```

## SEE ALSO

hsearch(3), lsearch(3), qsort(3), tsearch(3)

## COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

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