Rocky Enterprise Linux 9.2 Manual Pages on command 'offsetof.3'

$ man offsetof.3

OFFSETOF(3) Linux Programmer's Manual OFFSETOF(3)

NAME

offsetof - offset of a structure member

SYNOPSIS

#include <stddef.h>

size_t offsetof(type, member);

DESCRIPTION

The macro offsetof() returns the offset of the field member from the start of the structure type.

This macro is useful because the sizes of the fields that compose a structure can vary across implementations, and compilers may insert different numbers of padding bytes between fields. Consequently, an element's offset is not necessarily given by the sum of the sizes of the previous elements.

A compiler error will result if member is not aligned to a byte bound?ary (i.e., it is a bit field).

RETURN VALUE

offsetof() returns the offset of the given member within the given

type, in units of bytes.

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C89, C99.

EXAMPLES

On a Linux/i386 system, when compiled using the default gcc(1) options, the program below produces the following output:

```
$ ./a.out
offsets: i=0; c=4; d=8 a=16
sizeof(struct s)=16
```

Program source

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

int
main(void)
{
    struct s {
        int i;
        char c;
        double d;
        char a[];
    };

    /* Output is compiler dependent */

    printf("offsets: i=%zu; c=%zu; d=%zu a=%zu\n",
            offsetof(struct s, i), offsetof(struct s, c),
            offsetof(struct s, d), offsetof(struct s, a));
    printf("sizeof(struct s)=%zu\n", sizeof(struct s));
    exit(EXIT_SUCCESS);
}
```

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/.