

[Log in](#)

A computer science portal for geeks

Home	Q&A	Interview Corner	Ask a question	Contribute	GATE	Algorithms	C	C++	Books	About us
Arrays	Bit Magic	C/C++ Puzzles	Articles	GFactS	Linked Lists	MCQ	Misc	Output	Strings	Trees

C in C

May 5, 2010

In C, functions are global by default. The “static” keyword before a function name makes it static. For example, below function *fun()* is static.

```
static int fun(void)
{
    printf("I am a static function ");
}
```

Unlike global functions in C, access to static functions is restricted to the file where they are declared. Therefore, when we want to restrict access to functions, we make them static. Another reason for making functions static can be reuse of the same function name in other files.

For example, if we store following program in one file *file1.c*

```
/* Inside file1.c */
static void fun1(void)
{
    puts("fun1 called");
}
```

And store following program in another file *file2.c*

```
/* Inside file2.c */
int main(void)
{
    fun1();
    getchar();
    return 0;
}
```

Now, if we compile the above code with command “gcc file2.c file1.c”, we get the error “undefined reference to ‘fun1’”. This is because *fun1()* is declared *static* in *file1.c* and cannot be used in *file2.c*.

Please write comments if you find anything incorrect in the above article, or want to share more information about static functions in C.

3
 1
 0

Conveyancing Data Service

www.conveyancingdata.com

Conveyancing information and technology working for you.

Online Master in MIS

misdegree.businessdegrees.uab.edu

Specialize in Web & Mobile App. Development - 100% Online.

Networking Masters Online

computerscience.online.njit.edu

CNSS Certified, Less than 2 Years! Study TCP/IP Standards & Protocols

You may also like following posts

1. Understanding “extern” keyword in C
2. Does C support function overloading?
3. C Language | Set 4
4. Practice questions for Linked List and Recursion
5. Print all combinations of points that can compose a given number

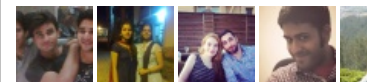
Facebook Comments

0 comments

[Interview Experiences](#)[Advanced Data Structures](#)[Dynamic Programming](#)[Greedy Algorithms](#)[Backtracking](#)[Pattern Searching](#)[Divide & Conquer](#)[Graph](#)[Mathematical Algorithms](#)[Recursion](#)[Java](#)

GeeksforGeeks

22,044 people like GeeksforGeeks.

 Facebook social plugin

It's your choice:

- ☐ Information Technology
- ☐ Business
- ☐ Criminal Justice
- ☐ Drafting and Design
- ☐ Electronics Technology

Request **Free** Information Today!ITT Technical Institute **ITT**

sdp

[All permutations of a given string](#)[Memory Layout of C Programs](#)[Understanding “extern” keyword in C](#)[Median of two sorted arrays](#)[Tree traversal without recursion and without stack!](#)[Structure Member Alignment, Padding and Data Packing](#)[Intersection point of two Linked Lists](#)[Lowest Common Ancestor in a BST.](#)[Check if a binary tree is BST or not](#)[Sorted Linked List to Balanced BST](#)

Web2PDF

[converted by Web2PDFConvert.com](http://converted.by/Web2PDFConvert.com)

9 comments so far

KeerthanaRajendran says:

June 8, 2013 at 7:04 PM

/* Paste your code here (You may delete these lines if not writing code) */

[Reply](#)

Nandan says:

June 5, 2013 at 8:54 AM

static functions can be called from other files with the help of function pointers i.e declare a function pointer and assign it to static function. Now with the help of function pointer static function can be called from other files.

[Reply](#)

ultimate_coder says:

June 5, 2013 at 12:45 PM

You are right. But it is also right that static keyword prevents its accidental usage in other files.

Correct me if i m wrong.

[Reply](#)

Eham says:

June 2, 2013 at 10:09 AM

Thank you so much, It's really helpful

/* Paste your code here (You may delete these lines if not writing code) */

[Reply](#)

Kapil says:

May 6, 2010 at 9:52 AM

how are static functions different from static variables?

[Reply](#)

Nithish says:

May 8, 2010 at 3:53 AM

Static functions are functions that are only visible to functions in the same file and they are not callable from outside. Static functions are used when we only need to call them within the single source file they are defined in.

Static variables are variables whose lifetime extends across the entire run of the program i.e. they retain their value through the execution of the program. Depending on where the variable is defined they have a file scope (if they are defined globally) or have a local function scope (if they are defined local to a function).

[Reply](#)

Sunil says:

August 7, 2011 at 12:10 PM

Static variables also have internal linkage right? Because we cannot have a static variable in one file and do extern for the same static variable in another file with both the files being in the same project.

[Reply](#)

ptr says:

August 7, 2011 at 4:13 PM

Yes static variables and static functions have internal linkage in C.

If you check assembled code for non static variables and non static functions you can see following directives:

```
.globl fun2
.type fun2, @function
.globl variable
```

This will make the variable visible to other compilations units (files).

And for static functions/static variables

Tablet PC

Largest Selection
Lowest Prices

See Prices

Lower Prices

[Follow @Geeksforgeeks](#)

1,343 followers

[+1](#) 440



[Subscribe](#)



AMT on Counting Sort

AMT on Find the maximum repeating number in $O(n)$ time and $O(1)$ extra space

KeerthanaRajendran on Static functions in C

tintin on Search an element in a sorted and pivoted array

GeeksforGeeks on Design a stack with operations on middle element

minoz on Design a stack with operations on middle element

minoz on Design a stack with operations on middle element

Prateek on Random number generator in arbitrary probability distribution

.globl directive will not be present in assembled code.

[Reply](#)

Sunil says:
August 7, 2011 at 11:31 PM
Thank you for the info

Comment

Name *(Required)*

Email *(Required)*

Website URI


Your Comment (Writing code? please paste your code between sourcecode tags)

```
[sourcecode language="C"]  
/* Paste your code here (You may delete these lines if not writing  
code) */  
[/sourcecode]
```

☒ Notify me of follow up comments via e-mail. You can also [subscribe](#) without commenting.

Type the two words

Privacy & Terms

reCAPTCHA™
stop spam.
read books.

Have Your Say

@geeksforgeeks, Some rights reserved

[Contact Us](#)

Powered by [WordPress](#) & [MooTools](#), customized by geeksforgeeks team