

# Re: About header files

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- *From:* Richard Heathfield <[invalid@xxxxxxxxxxxxxxxxxx](mailto:invalid@xxxxxxxxxxxxxxxxxx)>
  - *Date:* Thu, 29 Jun 2006 18:08:32 +0000
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Christoph Scholtes said:

Hi,

I have some questions about header files:

Say I have a file `functions.c` which contains a couple of functions. I have declared some structs in this file too. The structs are defined in `main.c`. Now I create a header file which represents the interface of `functions.c` to my main program file `main.c`.

I put in the header file: all function prototypes with keyword `extern` and the declarations of the structs, which are defined in the main program.

Do I include the header file `functions.h` in my file `functions.c` to get the struct declarations or do I explicitly declare the structs in `functions.c` and not include the header file?

Unless you are doing opaque types:

struct type definition goes in header  
struct definitions go in the functions that need them

If you are doing opaque types:

struct type definition goes in module's `.c` file  
struct type declaration goes in module's header  
pointers to struct types are defined in the functions that need them

About standard libraries: `functions.c` uses `stdio.h`, `stdlib.h` and `string.h`.

Those are headers, not libraries.

## Re: About header files

Thus, I include the header files. main.c also uses stdlib.c and stdio.h. Do I include them again or do I use inclusion guards to check if they are already included (e.g. in functions.c)?

Include them as often as you like. They are already protected by inclusion guards.

If a variable is declared static, is it still legal to pass it on as a function argument to a function outside of the file?

Yes.

The keyword extern in front of a function prototype in my header file says that the function is defined somewhere else, right?

I certainly hope so, since you wouldn't want to define the function in the header file!!

Do I HAVE to declare the function prototype as extern in the header file?

No. For functions, it's the default, and it can be omitted. Indeed, it almost always /is/ omitted.

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Richard Heathfield

"Usenet is a strange place" – dmr 29/7/1999

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