

Function Pointer and C Standard Library

魏恒峰

hfwei@nju.edu.cn

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Function Pointer

```
(#include <stdlib.h>)
```

```
void qsort (void *base, size_t num, size_t size,  
            int (*compar)(const void*, const void*));
```

```
(#include <stdlib.h>)
```

```
void qsort (void *base, size_t num, size_t size,  
            int (*compar)(const void*, const void*));
```

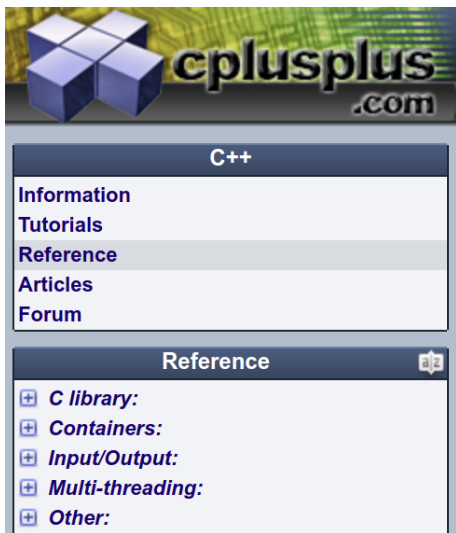
```
(compare.c)
```


```
int (*fptr)(int); // fptr is a function pointer

int square(int num) {
    return num * num;
}
```

```
int n = 5;
fptr = square; // fptr points to a function
fptr(n);
```


C Library



 **C library:**

- <cassert> (assert.h)
- <cctype> (ctype.h)
- <cerrno> (errno.h)
- <cfenv> (fenv.h)
- <cmath> (math.h)
- <cinttypes> (inttypes.h)
- <ciso646> (iso646.h)
- <climits> (limits.h)
- <locale> (locale.h)
- <cmath> (math.h)
- <csignal> (signal.h)
- <cstdarg> (stdarg.h)
- <stdbool> (stdbool.h)
- <stddef> (stddef.h)
- <stdint> (stdint.h)
- <stdio> (stdio.h)
- <stdlib> (stdlib.h)
- <string> (string.h)
- <tgmath> (tgmath.h)
- <time> (time.h)
- <uchar> (uchar.h)
- <wchar> (wchar.h)
- <wctype> (wctype.h)

(#include <assert.h>)

```
#include <assert.h>
```

```
int *vals = malloc(sizeof(int) * n);  
assert(vals != NULL)
```

```
(#include <assert.h>)
```

```
#define NDEBUG  
#include <assert.h>  
  
int *vals = malloc(sizeof(int) * n);  
assert(vals != NULL)
```

```
(#include <ctype.h>)
```

```
isdigit
```

```
isalpha
```

```
isalnum
```

```
islower
```

```
isupper
```

```
isspace
```

```
tolower
```

```
toupper
```

```
(#include <limits.h>)
```

```
CHAR_MIN
```

```
CHAR_MAX
```

```
INT_MIN
```

```
INT_MAX
```

```
(#include <math.h>)
```

```
sin
```

```
cos
```

```
exp
```

```
log
```

```
pow
```

```
sqrt
```

```
ceil
```

```
floor
```

```
(#include <stdarg.h>)
```



```
(#include <stddef.h>)  
size_t
```

```
sizeof(int)
```

```
void* malloc (size_t size);
```

```
NULL
```

```
(#include <stdio.h>)
```

```
scanf
```

```
printf
```

```
getchar
```

```
putchar
```

```
fopen
```

```
fclose
```

```
EOF
```

```
(#include <stdlib.h>)
```

```
atoi
```

```
atof
```

```
srand
```

```
rand
```

```
malloc
```

```
free
```

```
bsearch
```

```
qsort
```

```
(#include <string.h>)
```

```
strncpy
```

```
strncat
```

```
strncmp
```

```
strlen
```

```
strchr
```

```
strrchr
```

```
strstr
```

```
(#include <time.h>)
```

Thank
You!