

DAY01.C

Introduction (1) Standard Library

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1 Standard IO fnctions

1.1 using printf

```
.....  
h1.c  
.....  
#include <stdio.h>  
  
int main(void) {  
  
    printf("Hello, world!\n");  
    printf("Student ID \n");  
    printf("Name Name Name\n");  
  
    printf("\n\n");  
  
    printf("Hello, world!\nStudent ID \nName Name Name\n");  
  
    printf("\n\n");  
  
    printf("Hello, ");  
    printf("world!\n");  
    printf("Student");  
    printf(" ID \n");  
    printf("Name Name");  
    printf(" Name\n");  
}  
.....  
h1.out  
.....  
Hello, world!  
Student ID  
Name Name Name  
  
Hello, world!  
Student ID  
Name Name Name  
  
Hello, world!  
Student ID  
Name Name Name
```

1.2 printf() and scanf()

```
.....
```

```

t3.c
::::::::::::
#include <stdio.h>

int main(void) {
    int a;
    float x;

    scanf("%d", &a);
    scanf("%f", &x);

    printf("a= %d \n", a);
    printf("x= %f \n", x);
}

::::::::::::
t3.out
::::::::::::
100
3.14
a= 100
x= 3.140000

```

2 stdio.h include file

2.1 stdio.h

find out the include directory

```

$ 'gcc -print-prog-name=cc1' -v
ignoring nonexistent directory "/usr/lib/gcc/x86_64-linux-gnu/5/../../../../x86_64-linux-g
#include "..." search starts here:
#include <...> search starts here:
 /usr/lib/gcc/x86_64-linux-gnu/5/include
 /usr/local/include
 /usr/lib/gcc/x86_64-linux-gnu/5/include-fixed
 /usr/include
End of search list.

```

^C

- 'gcc -print-prog-name=cc1' -v
- /usr/include

more /usr/local/include.h

```

...#ifndef _STDIO_H

```

```
#if !defined __need_FILE && !defined __need___FILE
# define _STDIO_H 1
# include <features.h>

__BEGIN_DECLS

# define __need_size_t
# define __need_NULL
# include <stddef.h>

# include <bits/types.h>
# define __need_FILE
# define __need___FILE
#endif /* Don't need FILE. */

#if !defined __FILE_defined && defined __need_FILE

/* Define outside of namespace so the C++ is happy. */
struct _IO_FILE;
...

$ grep " printf " /usr/include/stdio.h
extern int printf (const char *__restrict __format, ...);
```

- `grep " printf " /usr/include/stdio.h`
- `extern int printf (const char *__restrict __format, ...);`
- `extern int printf (const char *fmt, ...);`
- `printf ("a= %d b= %b\n, a, b);`
- variable length arguments