fmemopen

2015년 10월 13일 화요일 오전 9:28

APUE 5.14 fmemopen example

```
 1 #include "apue.h"
 2
 3 #define BSZ 48
 4
 5 int
 6 main()
 7 {
 8         FILE *fp;
 9         char buf[BSZ];
10
11         memset(buf, 'a', BSZ-2);
12         buf[BSZ-2] = '₩0';
13         buf[BSZ-1] = 'X';
14         if ((fp = fmemopen(buf, BSZ, "w+")) == NULL)
15                 err_sys("fmemopen failed");
16         printf("initial buffer contents: %s₩n", buf);
17         fprintf(fp, "hello, world");
18         printf("before flush: %s₩n", buf);
19         fflush(fp);
20         printf("after fflush: %s₩n", buf);
21         printf("len of string in buf = %ld₩n", (long)strlen(buf));
22
23         memset(buf, 'b', BSZ-2);
24         buf[BSZ-2] = '₩0';
25         buf[BSZ-1] = 'X';
26         fprintf(fp, "hello, world");
27         fseek(fp, 0, SEEK_SET);
28         printf("after  fseek: %s₩n", buf);
29         printf("len of string in buf = %ld₩n", (long)strlen(buf));
30
31         memset(buf, 'c', BSZ-2);
32         buf[BSZ-2] = '₩0';
33         buf[BSZ-1] = 'X';
34         fprintf(fp, "hello, world");
35         fclose(fp);
36         printf("after fclose: %s₩n", buf);
37         printf("len of string in buf = %ld₩n", (long)strlen(buf));
38
39         return(0);
40 }
```

위 소스 코드에 대해서 이해하기 쉽게 아래와 같이 그려 보았습니다.

line 13

address	0	1	2	...	43	44	45	46	47
value	a	a	a	...	a	a	a	₩0	'X'

line 14 (w+ mode truncate to 0, fp goes to 0)

address	0 (fp)	1	2	...	43	44	45	46	47
value	0	0	0	...	0	0	0	0	0

line 19 (after flush, note that fp is 12)

address	0	1	2	3	4	5	6	7	8	9	10	11	12(fp)	13	...	47
value	h	e	l	l	o	,		w	o	r	l	d	₩0	0	...	0

line 25 (fp is still 12)

address	0	1	2	3	...	12(fp)	13	14	15	16	17	18	19	...	46	47
value	b	b	b	b	...	b	b	b	b	b	b	b	b	...	₩0	'X'

line 27 ("hello, world" is attached at fp which means address 12, then seek makes fp position 0)

address	0(fp)	1	2	3	...	12	13	14	15	16	17	...	22	23	24	...	46	47
value	b	b	b	b	...	h	e	l	l	o	,	...	d	₩0	b	...	b	'X'

line 33

address	0(fp)	1	2	3	...	44	45	46	47
value	c	c	c	c	...	c	c	₩0	'X'

line 35

address	0	1	2	3	4	5	6	7	8	...	11	12	...	45	46	47
value	h	e	l	l	o	,		w	o	...	d	c	...	c	₩0	'X'