

系統程式設計

Lab5 Stdio Compare

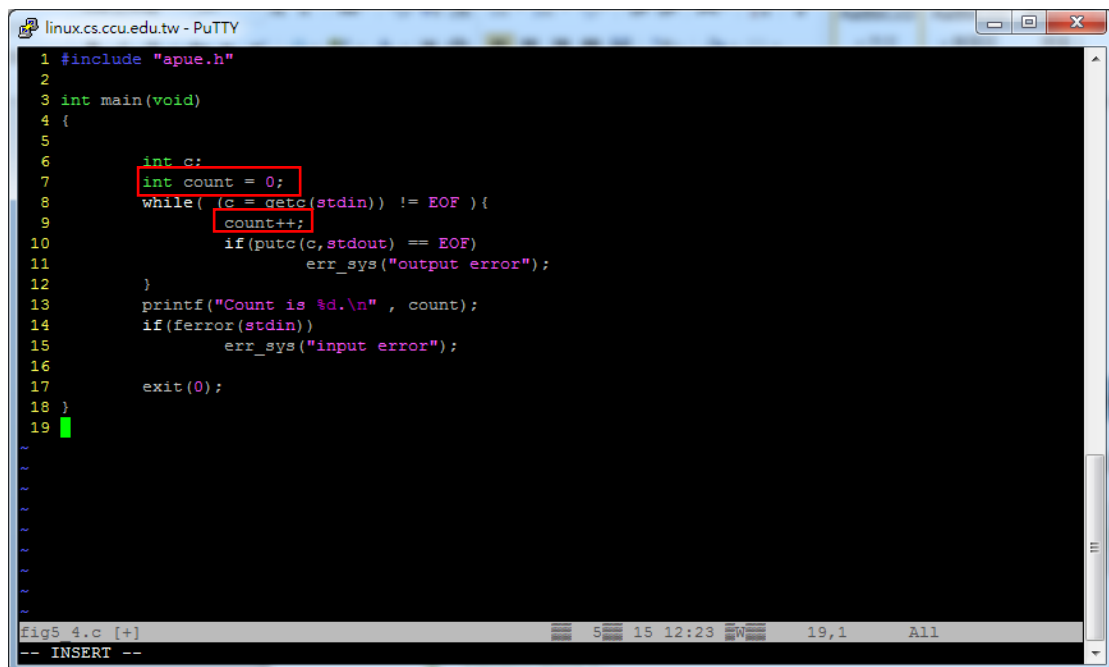
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1. Where is the counter you add?

(請註明在程式碼的第幾行，最好加上截圖)

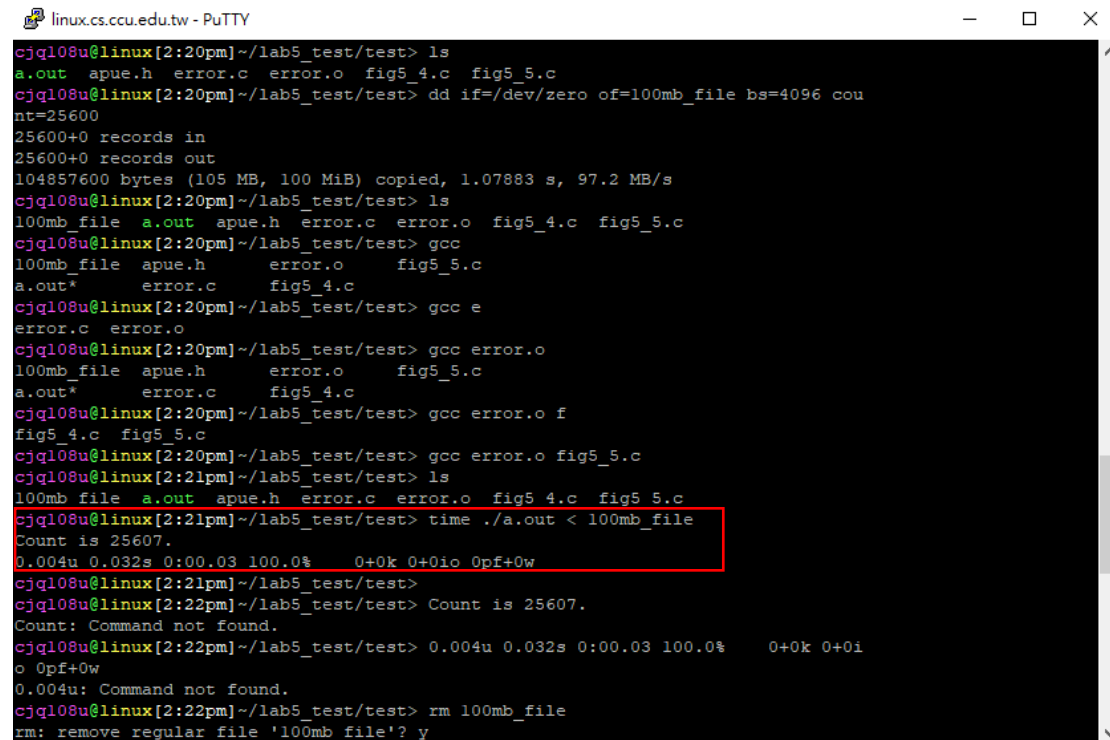
Fig5_4.c: (第 7、9 行)



```
1 #include "apue.h"
2
3 int main(void)
4 {
5
6     int c;
7     int count = 0;
8     while( (c = getc(stdin)) != EOF ){
9         count++;
10        if(putc(c, stdout) == EOF)
11            err_sys("output error");
12    }
13    printf("Count is %d.\n", count);
14    if(ferror(stdin))
15        err_sys("input error");
16
17    exit(0);
18 }
19
```

Fig5_5.c: (第 6、9 行)

Fig5_5.c: (fgets , fputs)



```
linux.cs.ccu.edu.tw - PuTTY
cjql08u@linux[2:20pm]~/lab5_test/test> ls
a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjql08u@linux[2:20pm]~/lab5_test/test> dd if=/dev/zero of=100mb_file bs=4096 cou
nt=25600
25600+0 records in
25600+0 records out
104857600 bytes (105 MB, 100 MiB) copied, 1.07883 s, 97.2 MB/s
cjql08u@linux[2:20pm]~/lab5_test/test> ls
100mb_file  a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjql08u@linux[2:20pm]~/lab5_test/test> gcc
100mb_file  apue.h      error.o      fig5_5.c
a.out*      error.c      fig5_4.c
cjql08u@linux[2:20pm]~/lab5_test/test> gcc e
error.c  error.o
cjql08u@linux[2:20pm]~/lab5_test/test> gcc error.o
100mb_file  apue.h      error.o      fig5_5.c
a.out*      error.c      fig5_4.c
cjql08u@linux[2:20pm]~/lab5_test/test> gcc error.o f
fig5_4.c  fig5_5.c
cjql08u@linux[2:20pm]~/lab5_test/test> gcc error.o fig5_5.c
cjql08u@linux[2:21pm]~/lab5_test/test> ls
100mb_file  a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjql08u@linux[2:21pm]~/lab5_test/test> time ./a.out < 100mb_file
Count is 25607.
0.004u 0.032s 0:00.03 100.0% 0+0k 0+0io 0pf+0w
cjql08u@linux[2:21pm]~/lab5_test/test>
cjql08u@linux[2:22pm]~/lab5_test/test> Count is 25607.
Count: Command not found.
cjql08u@linux[2:22pm]~/lab5_test/test> 0.004u 0.032s 0:00.03 100.0% 0+0k 0+0i
o 0pf+0w
0.004u: Command not found.
cjql08u@linux[2:22pm]~/lab5_test/test> rm 100mb_file
rm: remove regular file '100mb_file'? y
```

3. Screen shot for Table2

(提供每個執行後的截圖，並說明每張截圖是屬於哪種 mode)

Fully buffered: (_IOFBF)

```
linux.cs.ccu.edu.tw - PuTTY
cjql08u@linux[2:26pm]~/lab5_test/test> 2.752u 0.316s 0:03.07 99.6% 0+0k 0+0i
o 0pf+0w
2.752u: Command not found.
cjql08u@linux[2:26pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:36pm]~/lab5_test/test> vim f
fig5_4.c fig5_5.c
cjql08u@linux[2:36pm]~/lab5_test/test> vim fig5_5.c
cjql08u@linux[2:42pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test>
cjql08u@linux[2:43pm]~/lab5_test/test> rm 100mb_file
rm: remove regular file '100mb_file'? y
cjql08u@linux[2:43pm]~/lab5_test/test> dd if=/dev/zero of=100mb_file bs=4096 count=25600
25600+0 records in
25600+0 records out
104857600 bytes (105 MB, 100 MiB) copied, 1.08883 s, 96.3 MB/s
cjql08u@linux[2:43pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test> gcc e
error.c error.o
cjql08u@linux[2:43pm]~/lab5_test/test> gcc error.o
100mb_file a.out* apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test> gcc error.o f
fig5_4.c fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test> gcc error.o fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:43pm]~/lab5_test/test> time ./a.out < 100mb_file
Count is 25607.
0.008u 0.028s 0:00.03 66.6% 0+0k 0+0io 0pf+0w
cjql08u@linux[2:44pm]~/lab5_test/test>
cjql08u@linux[2:44pm]~/lab5_test/test>
```

Line buffered: (_IOLBF)

```
linux.cs.ccu.edu.tw - PuTTY
Count is 25607.
0.008u 0.028s 0:00.03 66.6% 0+0k 0+0io 0pf+0w
cjql08u@linux[2:44pm]~/lab5_test/test>
cjql08u@linux[2:44pm]~/lab5_test/test> rm
100mb_file a.out* apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:44pm]~/lab5_test/test> rm 100mb_file
rm: remove regular file '100mb_file'? y
cjql08u@linux[2:45pm]~/lab5_test/test> Count is 25607.
Count: Command not found.
cjql08u@linux[2:45pm]~/lab5_test/test> 0.008u 0.028s 0:00.03 66.6% 0+0k 0+0io 0pf+0w
0.008u: Command not found.
cjql08u@linux[2:45pm]~/lab5_test/test> dd if=/dev/zero of=100mb_file bs=4096 count=25600
25600+0 records in
25600+0 records out
104857600 bytes (105 MB, 100 MiB) copied, 1.04732 s, 100 MB/s
cjql08u@linux[2:46pm]~/lab5_test/test>
cjql08u@linux[2:46pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:46pm]~/lab5_test/test> vim f
fig5_4.c fig5_5.c
cjql08u@linux[2:46pm]~/lab5_test/test> vim fig5_5.c
cjql08u@linux[2:47pm]~/lab5_test/test> ls
100mb_file a.out apue.h error.c error.o fig5_4.c fig5_5.c
cjql08u@linux[2:47pm]~/lab5_test/test> gcc e
error.c error.o
cjql08u@linux[2:47pm]~/lab5_test/test> gcc error.o f
fig5_4.c fig5_5.c
cjql08u@linux[2:47pm]~/lab5_test/test> gcc error.o fig5_5.c
cjql08u@linux[2:47pm]~/lab5_test/test> time ./a.out < 100mb_file
Count is 25607.
0.016u 0.024s 0:00.04 75.0% 0+0k 0+0io 0pf+0w
cjql08u@linux[2:48pm]~/lab5_test/test>
cjql08u@linux[2:48pm]~/lab5_test/test>
```

Unbuffered: (_IONBF)

```
0.016u 0.024s 0:00.04 75.0%      0+0k 0+0io 0pf+0w
cjq108u@linux[2:48pm]~/lab5_test/test>
cjq108u@linux[2:48pm]~/lab5_test/test> rm 100mb_file
rm: remove regular file '100mb_file'? y
cjq108u@linux[2:49pm]~/lab5_test/test> ls
a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjq108u@linux[2:49pm]~/lab5_test/test> dd if=/dev/zero of=100mb_file bs=4096 count=25600
25600+0 records in
25600+0 records out
104857600 bytes (105 MB, 100 MiB) copied, 1.00627 s, 104 MB/s
cjq108u@linux[2:49pm]~/lab5_test/test> Count is 25607.
Count: Command not found.
cjq108u@linux[2:49pm]~/lab5_test/test> 0.016u 0.024s 0:00.04 75.0%      0+0k 0+0io 0pf+0w
0.016u: Command not found.
cjq108u@linux[2:49pm]~/lab5_test/test> ls
100mb file  a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> vim f
fig5_4.c  fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> vim fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> ls
100mb file  a.out  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> gcc e
error.c  error.o
cjq108u@linux[2:50pm]~/lab5_test/test> gcc error.o
100mb file  a.out*  apue.h  error.c  error.o  fig5_4.c  fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> gcc error.o f
fig5_4.c  fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> gcc error.o fig5_5.c
cjq108u@linux[2:50pm]~/lab5_test/test> time ./a.out < 100mb_file
Count is 25607.
0.020u 0.020s 0:00.04 100.0%      0+0k 0+0io 0pf+0w
cjq108u@linux[2:51pm]~/lab5_test/test>
cjq108u@linux[2:51pm]~/lab5_test/test>
```