

Description of the test cases

1. Test cases

```
void process_traps_conut_test(void)
{
    struct trap_statistic_s cnt;
    int ret;
    int pid;

    pid = getpid();
    ret = countTraps(&cnt);

    printf(1, "get pid %d ALL Traps %d\n", pid, ret);
    if (cnt.TRAP_DIVIDE)
        printf(1, "get pid %d divide error %d\n", pid, cnt.TRAP_DIVIDE);
    if (cnt.TRAP_DEBUG)
        printf(1, "get pid %d debug exception %d\n", pid, cnt.TRAP_DEBUG);
    if (cnt.TRAP_NMI)
        printf(1, "get pid %d non-maskable interrupt %d\n", pid,
cnt.TRAP_NMI);
    if (cnt.TRAP_BRKPTRAP)
        printf(1, "get pid %d breakpoint %d\n", pid, cnt.TRAP_BRKPTRAP);
    if (cnt.TRAP_OFLOW)
        printf(1, "get pid %d overflow %d\n", pid, cnt.TRAP_OFLOW );
    if (cnt.TRAP_BOUND)
        printf(1, "get pid %d bounds check %d\n", pid, cnt.TRAP_BOUND);
    if (cnt.TRAP_ILLOP)
        printf(1, "get pid %d illegal opcode %d\n", pid, cnt.TRAP_ILLOP);
    if (cnt.TRAP_DEVICE)
        printf(1, "get pid %d device not available %d\n", pid,
cnt.TRAP_DEVICE);
    if (cnt.TRAP_DBLFLTTRAP)
        printf(1, "get pid %d double fault %d\n", pid, cnt.TRAP_DBLFLTTRAP);
    if (cnt.TRAP_COPROC)
        printf(1, "get pid %d reserved (not used since 486) %d\n", pid,
cnt.TRAP_COPROC);
    if (cnt.TRAP_TRAPSS)
        printf(1, "get pid %d invalid task switch segment %d\n", pid,
cnt.TRAP_TRAPSS);
```

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        if (cnt.TRAP_SEGNP)
            printf(1, "get pid %d segment not present %d\n", pid,
cnt.TRAP_SEGNP);
        if (cnt.TRAP_STRAPACK)
            printf(1, "get pid %d stack exception %d\n", pid,
cnt.TRAP_STRAPACK);
        if (cnt.TRAP_GPFLTRAP)
            printf(1, "get pid %d general protection fault %d\n", pid,
cnt.TRAP_GPFLTRAP);
        if (cnt.TRAP_PGFLTRAP)
            printf(1, "get pid %d page fault %d\n", pid, cnt.TRAP_PGFLTRAP);
        if (cnt.TRAP_RES)
            printf(1, "get pid %d reserved %d\n", pid, cnt.TRAP_RES);
        if (cnt.TRAP_FPERR)
            printf(1, "get pid %d floating point error %d\n", pid,
cnt.TRAP_FPERR);
        if (cnt.TRAP_ALIGN)
            printf(1, "get pid %d alignment check %d\n", pid, cnt.TRAP_ALIGN);
        if (cnt.TRAP_MCHK)
            printf(1, "get pid %d machine check %d\n", pid, cnt.TRAP_MCHK);
        if (cnt.TRAP_SIMDERR)
            printf(1, "get pid %d SIMD floating point error %d\n", pid,
cnt.TRAP_SIMDERR);
        if (cnt.TRAP_SYSCALL)
            printf(1, "get pid %d system call %d\n", pid, cnt.TRAP_SYSCALL);
        if (cnt.TRAP_DEFAULTRAP)
            printf(1, "get pid %d catchall %d\n", pid, cnt.TRAP_DEFAULTRAP);
        if (cnt.TRAP_IRQ_TRAPIMER)
            printf(1, "get pid %d IRQ TIMER %d\n", pid, cnt.TRAP_IRQ_TRAPIMER);
        if (cnt.TRAP_IRQ_KBD)
            printf(1, "get pid %d IRQ KBD %d\n", pid, cnt.TRAP_IRQ_KBD);
        if (cnt.TRAP_IRQ_COM1)
            printf(1, "get pid %d IRQ COM1 %d\n", pid, cnt.TRAP_IRQ_COM1);
        if (cnt.TRAP_IRQ_IDE)
            printf(1, "get pid %d IRQ IDE %d\n", pid, cnt.TRAP_IRQ_IDE);
        if (cnt.TRAP_IRQ_ERROR)
            printf(1, "get pid %d IRQ ERROR %d\n", pid, cnt.TRAP_IRQ_ERROR);
        if (cnt.TRAP_IRQ_SPURIOUS)
            printf(1, "get pid %d IRQ SPURIOUS %d\n", pid,
cnt.TRAP_IRQ_SPURIOUS);

        return;
}

```

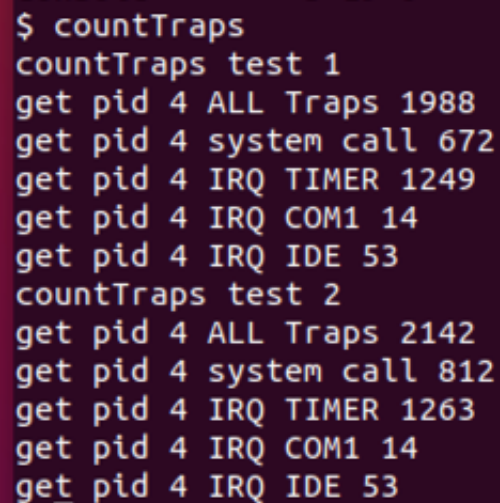
```
int main(int argc, char *argv[])
{
    printf(1, "countTraps test 1\n");
    process_traps_conut_test();

    sleep(1);

    printf(1, "countTraps test 2\n");
    process_traps_conut_test();

    exit();
}
```

2. Testing results

A terminal window with a dark background and light-colored text. The output shows two test runs. The first test, 'countTraps test 1', shows statistics for pid 4: 1988 ALL Traps, 672 system calls, 1249 IRQ TIMER, 14 IRQ COM1, and 53 IRQ IDE. The second test, 'countTraps test 2', shows statistics for pid 4: 2142 ALL Traps, 812 system calls, 1263 IRQ TIMER, 14 IRQ COM1, and 53 IRQ IDE.

```
$ countTraps
countTraps test 1
get pid 4 ALL Traps 1988
get pid 4 system call 672
get pid 4 IRQ TIMER 1249
get pid 4 IRQ COM1 14
get pid 4 IRQ IDE 53
countTraps test 2
get pid 4 ALL Traps 2142
get pid 4 system call 812
get pid 4 IRQ TIMER 1263
get pid 4 IRQ COM1 14
get pid 4 IRQ IDE 53
```