

# END-SEM Device Drivers PRACTICE

CED17I036

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When I mentioned for each non-capital letter, it would be printed as “Not a capital letter”, this was the output ::

```
Apr 15 12:18:28 aditya-Inspiron-7460 kernel: [ 2088.640839] Small letter or numbers (Not a capital letter)
aditya@aditya-Inspiron-7460:~/DD/endsem$ Aa@B^cD(
bash: syntax error near unexpected token `newline'
aditya@aditya-Inspiron-7460:~/DD/endsem$ Aa@B^cD(I*a
```

```
Apr 15 12:18:03 aditya-Inspiron-7460 kernel: [ 2164.719094] A 30
Apr 15 12:18:10 aditya-Inspiron-7460 kernel: [ 2169.090607] Small letter or numbers (Not a capital letter)
Apr 15 12:18:14 aditya-Inspiron-7460 kernel: [ 2171.571465] Special Character (Not a capital letter)
Apr 15 12:18:14 aditya-Inspiron-7460 kernel: [ 2175.167357] B 48
Apr 15 12:18:20 aditya-Inspiron-7460 kernel: [ 2178.631751] Special Character (Not a capital letter)
Apr 15 12:18:21 aditya-Inspiron-7460 kernel: [ 2181.209726] Small letter or numbers (Not a capital letter)
Apr 15 12:18:21 aditya-Inspiron-7460 kernel: [ 2181.997863] D 32
Apr 15 12:18:25 aditya-Inspiron-7460 kernel: [ 2184.972757] Special Character (Not a capital letter)
Apr 15 12:18:25 aditya-Inspiron-7460 kernel: [ 2186.416480] Small letter or numbers (Not a capital letter)
Apr 15 12:18:31 aditya-Inspiron-7460 kernel: [ 2186.848587] Small letter or numbers (Not a capital letter)
Apr 15 12:18:32 aditya-Inspiron-7460 kernel: [ 2192.396850] Small letter or numbers (Not a capital letter)
Apr 15 12:18:32 aditya-Inspiron-7460 kernel: [ 2193.069601] A 30
Apr 15 12:18:34 aditya-Inspiron-7460 kernel: [ 2194.533515] Small letter or numbers (Not a capital letter)
Apr 15 12:18:35 aditya-Inspiron-7460 kernel: [ 2195.285810] Special Character (Not a capital letter)
Apr 15 12:18:35 aditya-Inspiron-7460 kernel: [ 2196.865273] B 48
Apr 15 12:18:38 aditya-Inspiron-7460 kernel: [ 2198.046015] Special Character (Not a capital letter)
Apr 15 12:18:39 aditya-Inspiron-7460 kernel: [ 2199.314940] Small letter or numbers (Not a capital letter)
Apr 15 12:18:39 aditya-Inspiron-7460 kernel: [ 2200.368382] D 32
Apr 15 12:18:41 aditya-Inspiron-7460 kernel: [ 2201.013915] Special Character (Not a capital letter)
Apr 15 12:18:41 aditya-Inspiron-7460 kernel: [ 2202.312547] I 23
Apr 15 12:18:46 aditya-Inspiron-7460 kernel: [ 2206.828798] Special Character (Not a capital letter)
Apr 15 12:18:47 aditya-Inspiron-7460 kernel: [ 2207.486754] Small letter or numbers (Not a capital letter)
Apr 15 12:18:49 aditya-Inspiron-7460 kernel: [ 2208.235414] Small letter or numbers (Not a capital letter)
Apr 15 12:18:50 aditya-Inspiron-7460 kernel: [ 2210.772251] Small letter or numbers (Not a capital letter)
Apr 15 12:18:50 aditya-Inspiron-7460 kernel: [ 2211.112520] Small letter or numbers (Not a capital letter)
Apr 15 12:18:51 aditya-Inspiron-7460 kernel: [ 2211.374079] Small letter or numbers (Not a capital letter)
aditya@aditya-Inspiron-7460:~/DD/endsem$
```

When I commented it out, only the capital letters would be printed out, and I had the following output ::

```
CC [M] /home/aditya/DD/endsem/keylogger.o
/home/aditya/DD/endsem/keylogger.c: In function 'keylogger_notify':
/home/aditya/DD/endsem/keylogger.c:35:40: warning: suggest parentheses around '&&' within '||' [-Wparentheses]
     else if(shiftKeyPressed==1 && (param->value > 15 && param->value < 26)||param->value > 29 && param->value < 31)
                                     ^~~~~~
){
In file included from /home/aditya/DD/endsem/keylogger.c:5:0:
At top level:
/home/aditya/DD/endsem/keymap.h:2:20: warning: 'keymap' defined but not used [-Wunused-variable]
static const char *keymap[] = {
                    ^
Building modules, stage 2.
MODPOST 1 modules
CC      /home/aditya/DD/endsem/keylogger.mod.o
LD [M] /home/aditya/DD/endsem/keylogger.ko
make[1]: Leaving directory '/usr/src/linux-headers-4.15.0-141-generic'
aditya@aditya-Inspiron-7460:~/DD/endsem$ sudo insmod keylogger.ko
aditya@aditya-Inspiron-7460:~/DD/endsem$ AbC#sDef^&H
[3] 4613
H: command not found
AbC#^: command not found
aditya@aditya-Inspiron-7460:~/DD/endsem$ tail -n120 /var/log/kern.log
```

```
Apr 15 12:22:56 aditya-Inspiron-7460 kernel: [ 2457.043560] Small letter or numbers (Not a capital letter)
Apr 15 12:22:56 aditya-Inspiron-7460 kernel: [ 2457.075464] Unregistered the keylogger module
Apr 15 12:23:04 aditya-Inspiron-7460 kernel: [ 2465.339546] Registering the keylogger module with the keyboard notifier list
Apr 15 12:23:07 aditya-Inspiron-7460 kernel: [ 2468.876249] A 30
Apr 15 12:23:09 aditya-Inspiron-7460 kernel: [ 2469.932991] C 46
Apr 15 12:23:13 aditya-Inspiron-7460 kernel: [ 2473.949314] E 18
Apr 15 12:23:15 aditya-Inspiron-7460 kernel: [ 2476.143980] H 35
[3]+  Exit 127                  AbC#sDef^
aditya@aditya-Inspiron-7460:~/DD/endsem$
```

Thank you