

作業系統概論 hw6

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1. 寫一支程式，程式的名稱是waitTemp，waitTemp ## /*印出開始執行時間及各核心溫度。所有的core的溫度降低到##度以下時waitTemp印出時間及各核心的溫度*/

```
hw06-system_info : bash — Konsole
File Edit View Bookmarks Settings Help
xingyan@kubuntu:~/Desktop/hw06-system_info$ ./waitTemp 42
target = 42
#01 sec 🌟 CPU temperature      =      43.00 °C
      🔥 Core1 temperature    =      42.00 °C
      🌟 Core2 temperature    =      42.00 °C
      🔥 Avg temperature      =      42.33 °C

#02 sec 🌟 CPU temperature      =      43.00 °C
      🔥 Core1 temperature    =      42.00 °C
      🌟 Core2 temperature    =      42.00 °C
      🔥 Avg temperature      =      42.33 °C

#03 sec 🌟 CPU temperature      =      43.00 °C
      🔥 Core1 temperature    =      42.00 °C
      🌟 Core2 temperature    =      42.00 °C
      🔥 Avg temperature      =      42.33 °C

temperature 42.00°C
xingyan@kubuntu:~/Desktop/hw06-system_info$
```

2. 說明你怎樣使用strace得知你的CPU的溫度在哪個檔案中

(1) 先用 sensors 找到 CPU 溫度，並記錄下關鍵字

```
~ : bash — Konsole
File Edit View Bookmarks Settings Help
xingyan@kubuntu:~$ sensors
coretemp-isa-0000
Adapter: ISA adapter
Package id 0:  +63.0°C  (high = +100.0°C, crit = +100.0°C)
Core 0:        +63.0°C  (high = +100.0°C, crit = +100.0°C)
Core 1:        +59.0°C  (high = +100.0°C, crit = +100.0°C)
```

(2) 再使用strace sensors尋找剛才的關鍵字，記錄下來路徑，下一步驗證

```
> ~: bash — Konsole
File Edit View Bookmarks Settings Help
o such file or directory)
openat(AT_FDCWD, "/sys/class/hwmon/hwmon6/temp1_label", O_RDONLY) = -1 ENOENT (N
o such file or directory)
openat(AT_FDCWD, "/sys/class/hwmon/hwmon6/temp1_input", O_RDONLY) = 3
fstat(3, {st_mode=S_IFREG|0444, st_size=4096, ...}) = 0
read(3, "30000\n", 4096) = 6
close(3) = 0
write(1, "temp1:          +30.0\302\260C  \n", 25temp1:          +30.0°C
) = 25
write(1, "\n", 1
) = 1
write(1, "ucsi_source_psy_USBC000:001-isa-"..., 37ucsi_source_psy_USBC000:001-is
a-0000
) = 37
write(1, "Adapter: ISA adapter\n", 21Adapter: ISA adapter
) = 21
openat(AT_FDCWD, "/sys/class/hwmon/hwmon4/in0_label", O_RDONLY) = -1 ENOENT (No
such file or directory)
openat(AT_FDCWD, "/sys/class/hwmon/hwmon4/curr1_label", O_RDONLY) = -1 ENOENT (N
o such file or directory)
```

(3) 使用cat顯示剛才的檔案內容並接續使用sensors，比對下可看出結果正確，其他核心也使用相同步驟尋找

```
> ~: bash — Konsole
File Edit View Bookmarks Settings Help
xingyan@kubuntu:~$ cat /sys/class/hwmon/hwmon6/temp1_input; sensors
44000
coretemp-isa-0000
Adapter: ISA adapter
Package id 0:  +44.0°C (high = +100.0°C, crit = +100.0°C)
Core 0:        +44.0°C (high = +100.0°C, crit = +100.0°C)
Core 1:        +45.0°C (high = +100.0°C, crit = +100.0°C)

ucsi_source_psy_USBC000:001-isa-0000
Adapter: ISA adapter
in0:          5.00 V (min = +5.00 V, max = +5.00 V)
curr1:        0.00 A (max = +0.00 A)

BAT1-acpi-0
Adapter: ACPI interface
in0:          12.35 V
curr1:        0.00 A

iwlwifi_1-virtual-0
Adapter: Virtual device
temp1:        +48.0°C
```

3. 附上截圖說明你完成的部分

全部皆完成，如圖一。