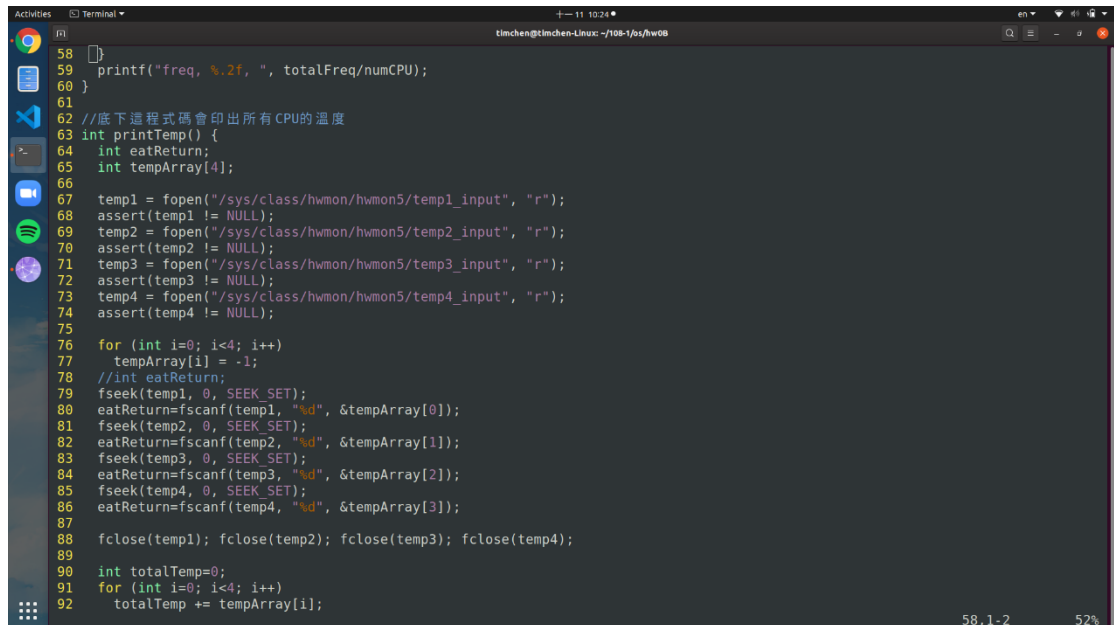


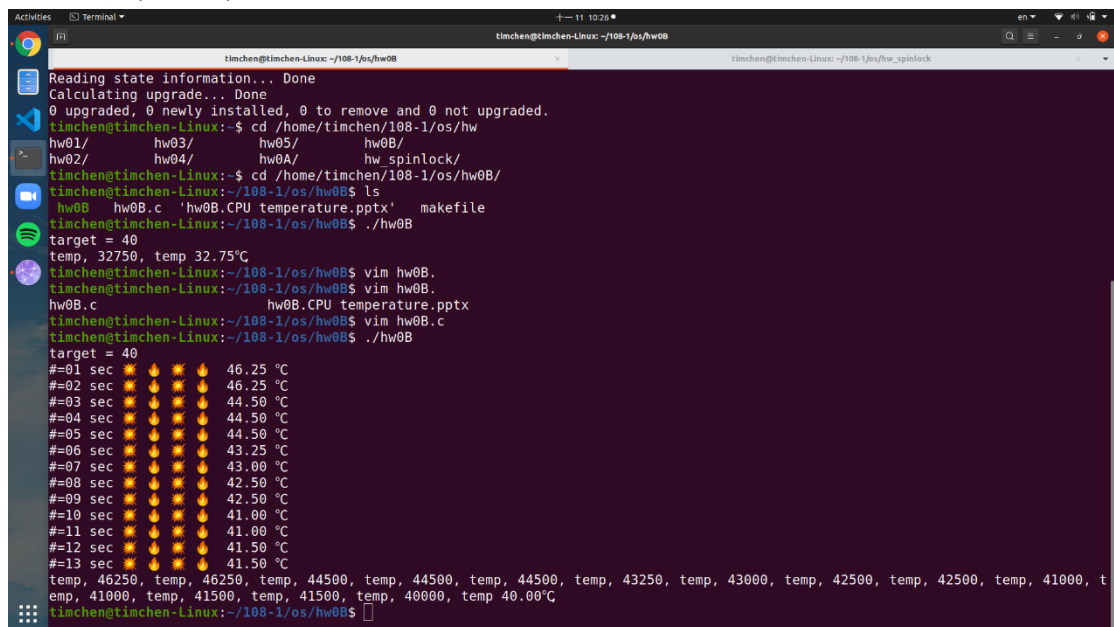
Hw0B 資工三 406410061 陳威樺

1. 在/sys/class/hwmon 中一一查看底下的所有資料夾，將所有有 temp_input 的資料夾全部抓出來，並將程式碼中關於這邊的部分改動成有 temp_input 的資料夾，最後因為電腦散熱原因，將目標溫度調整至 40 度，然後利用 spinlock 的程式進行燒機，再用城市將溫度下降至 40 度。



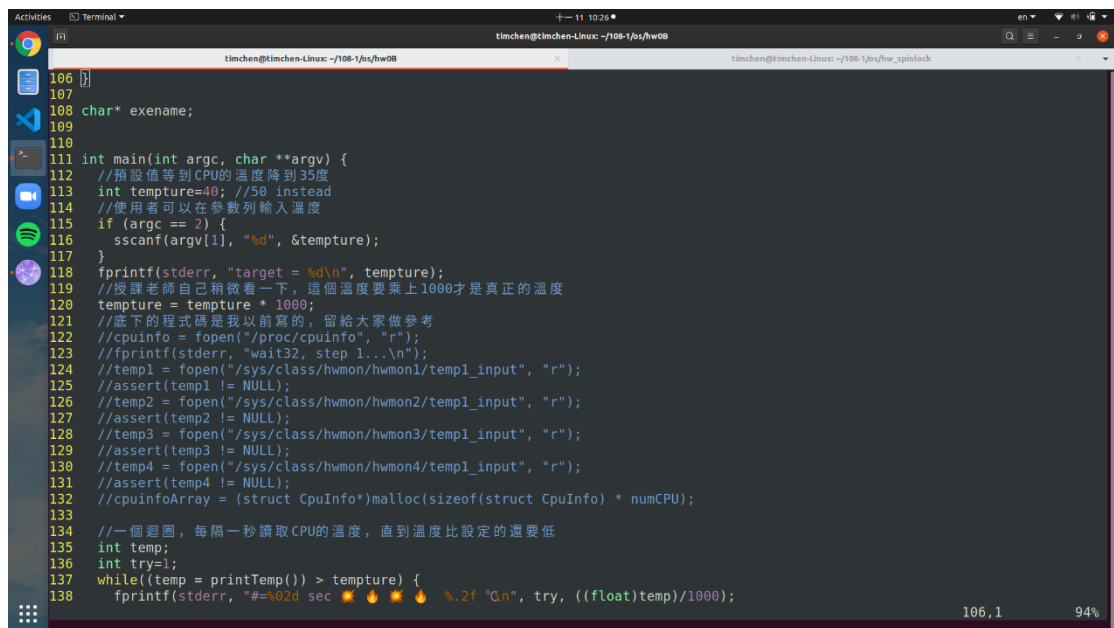
```
58 }
59 printf("freq, %.2f, ", totalFreq/numCPU);
60 }
61
62 //底下這程式碼會印出所有CPU的溫度
63 int printTemp() {
64     int eatReturn;
65     int tempArray[4];
66
67     temp1 = fopen("/sys/class/hwmon/hwmon5/temp1_input", "r");
68     assert(temp1 != NULL);
69     temp2 = fopen("/sys/class/hwmon/hwmon5/temp2_input", "r");
70     assert(temp2 != NULL);
71     temp3 = fopen("/sys/class/hwmon/hwmon5/temp3_input", "r");
72     assert(temp3 != NULL);
73     temp4 = fopen("/sys/class/hwmon/hwmon5/temp4_input", "r");
74     assert(temp4 != NULL);
75
76     for (int i=0; i<4; i++)
77         tempArray[i] = -1;
78     //int eatReturn;
79     fseek(temp1, 0, SEEK_SET);
80     eatReturn=fscanf(temp1, "%d", &tempArray[0]);
81     fseek(temp2, 0, SEEK_SET);
82     eatReturn=fscanf(temp2, "%d", &tempArray[1]);
83     fseek(temp3, 0, SEEK_SET);
84     eatReturn=fscanf(temp3, "%d", &tempArray[2]);
85     fseek(temp4, 0, SEEK_SET);
86     eatReturn=fscanf(temp4, "%d", &tempArray[3]);
87
88     fclose(temp1); fclose(temp2); fclose(temp3); fclose(temp4);
89
90     int totalTemp=0;
91     for (int i=0; i<4; i++)
92         totalTemp += tempArray[i];
```

2. 在這邊將電腦中有 temp_input 的資料夾特別獨立出來寫，才能讀到想要的 CPU 溫度(67~74)。



```
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
timchen@timchen-Linux:~$ cd /home/timchen/108-1/os/hw
hw01/      hw03/      hw05/      hw0B/
hw02/      hw04/      hw0A/      hw_spinlock/
timchen@timchen-Linux:~$ cd /home/timchen/108-1/os/hw0B/
timchen@timchen-Linux:~/108-1/os/hw0B$ ls
hw0B  hw0B.c  'hw0B.CPU temperature.pptx'  makefile
timchen@timchen-Linux:~/108-1/os/hw0B$ ./hw0B
target = 40
temp, 32750, temp 32.75°C
timchen@timchen-Linux:~/108-1/os/hw0B$ vim hw0B.
timchen@timchen-Linux:~/108-1/os/hw0B$ vim hw0B.
hw0B.c      hw0B.CPU temperature.pptx
timchen@timchen-Linux:~/108-1/os/hw0B$ vim hw0B.c
timchen@timchen-Linux:~/108-1/os/hw0B$ ./hw0B
target = 40
#=#01 sec  🌟🌟🌟🌟  46.25 °C
#=#02 sec  🌟🌟🌟🌟  46.25 °C
#=#03 sec  🌟🌟🌟🌟  44.50 °C
#=#04 sec  🌟🌟🌟🌟  44.50 °C
#=#05 sec  🌟🌟🌟🌟  44.50 °C
#=#06 sec  🌟🌟🌟🌟  43.25 °C
#=#07 sec  🌟🌟🌟🌟  43.00 °C
#=#08 sec  🌟🌟🌟🌟  42.50 °C
#=#09 sec  🌟🌟🌟🌟  42.50 °C
#=#10 sec  🌟🌟🌟🌟  41.00 °C
#=#11 sec  🌟🌟🌟🌟  41.00 °C
#=#12 sec  🌟🌟🌟🌟  41.50 °C
#=#13 sec  🌟🌟🌟🌟  41.50 °C
temp, 46250, temp, 46250, temp, 44500, temp, 44500, temp, 44500, temp, 43250, temp, 43000, temp, 42500, temp, 42500, temp, 41000, t
emp, 41000, temp, 41500, temp, 41500, temp, 40000, temp 40.00°C
timchen@timchen-Linux:~/108-1/os/hw0B$
```

3. 降溫效果



```
106 |  
107 |  
108 char* exename;  
109 |  
110 |  
111 int main(int argc, char **argv) {  
112     //預設值等到CPU的溫度降到35度  
113     int tempture=40; //50 instead  
114     //使用者可以在參數列輸入溫度  
115     if (argc == 2) {  
116         sscanf(argv[1], "%d", &tempture);  
117     }  
118     fprintf(stderr, "target = %d\n", tempture);  
119     //授課老師自己稍微看一下，這個溫度要乘上1000才是真正的溫度  
120     tempture = tempture * 1000;  
121     //底下的程式碼是我以前寫的，留給大家做參考  
122     //cpuinfo = fopen("/proc/cpuinfo", "r");  
123     //fprintf(stderr, "wait32, step 1...\n");  
124     //temp1 = fopen("/sys/class/hwmon/hwmon1/temp1_input", "r");  
125     //assert(temp1 != NULL);  
126     //temp2 = fopen("/sys/class/hwmon/hwmon2/temp1_input", "r");  
127     //assert(temp2 != NULL);  
128     //temp3 = fopen("/sys/class/hwmon/hwmon3/temp1_input", "r");  
129     //assert(temp3 != NULL);  
130     //temp4 = fopen("/sys/class/hwmon/hwmon4/temp1_input", "r");  
131     //assert(temp4 != NULL);  
132     //cpuinfoArray = (struct CpuInfo*)malloc(sizeof(struct CpuInfo) * numCPU);  
133 |  
134     //一個迴圈，每隔一秒讀取CPU的溫度，直到溫度比設定的還要低  
135     int temp;  
136     int try=1;  
137     while((temp = printTemp()) > tempture) {  
138         fprintf(stderr, "#=%02d sec 🔥🔥🔥🔥 %.2f °C\n", try, ((float)temp)/1000);  
139     }
```

106,1 94%

將目標溫度設置為 40(113 行)