

系統程式 HW8  
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# 程式碼

```
/* timesup.c */

#include <stdio.h>
#include <sys/signal.h>

#define EVER ;;

void main();
int times_up();
int controlc_up();

void main()
{
    signal (SIGALRM, times_up);          /* go to the times_up function */
    signal (SIGINT, controlc_up);        /* go to the times_up function */
                                        /* when the alarm goes off. */
    alarm (10);                          /* set the alarm for 10 seconds */

    for (EVER)                           /* endless loop. */
        ;                               /* hope the alarm works. */
}

int times_up(sig)                        /* value of signal */
int sig;
{
    printf("Caught signal #< %d >\n", sig);
    printf("Time's up! I'm outta here!!\n");
    alarm(10);
    /* exit(sig); */                    /* return the signal number */
}

int controlc_up(sig)                    /* value of signal */
int sig;
{
    int i = fork();
    if (i == 0)
    {
        execlp("uptime", "uptime", NULL);
    }
    i = fork();
    if (i == 0)
    {
        execlp("who", "who", NULL);
    }
    /* exit(sig); */                    /* return the signal number */
}
```

# 執行結果

```
41071102H@telnet:~/Homework8$ ./a.out
Caught signal #< 14 >
Time's up! I'm outta here!!
^C 11:54:15 up 9 days, 18:37, 3 users, load average: 0.22, 0.10, 0.14
41171134H pts/1      2024-12-05 10:25 (140.122.136.197)
41047045s pts/2      2024-12-05 10:29 (140.122.136.131)
41071102H pts/7      2024-12-05 11:35 (140.122.136.10)
^C 11:54:15 up 9 days, 18:37, 3 users, load average: 0.22, 0.10, 0.14
41171134H pts/1      2024-12-05 10:25 (140.122.136.197)
41047045s pts/2      2024-12-05 10:29 (140.122.136.131)
41071102H pts/7      2024-12-05 11:35 (140.122.136.10)
Caught signal #< 14 >
Time's up! I'm outta here!!
^C 11:54:25 up 9 days, 18:37, 3 users, load average: 0.29, 0.12, 0.15
41171134H pts/1      2024-12-05 10:25 (140.122.136.197)
41047045s pts/2      2024-12-05 10:29 (140.122.136.131)
41071102H pts/7      2024-12-05 11:35 (140.122.136.10)
^Z
[1]+  Stopped                  ./a.out
```