系統程式 HW10

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1. 產生zombie以後是否可以使用kill指令將zombie殺掉?

```
🔥 🗁 ~/Downloads/SP HW10 🕻 kill -9 9096
                                                                                            ② 22:22:54
🔥 🗠 ~/Downloads/SP_HW10 🕽 ps -aux |grep "defunct"
             9096 0.0 0.0
                                            pts/1
pts/1
rogewood
                                   0
                                                            22:22
                                                                     0:00
                                                                          [zombie]
                                                                                    <defunct>
             9098
                         0.0
                                                                           [zombie]
                                                                                    <defunct>
                   0.0
                                   0
                                          0
                                                      Z+
                                                            22:22
                                                                    0:00
rogewood
rogewood
             9100
                   0.0
                         0.0
                                   0
                                          0 pts/1
                                                            22:22
                                                                     0:00
                                                                           [zombie]
                                                                                    <defunct>
                                                                           [zombie]
             9102
                                   0
                                          0 pts/1
                                                      Z+
                                                            22:22
                   0.0
                         0.0
                                                                    0:00
                                                                                    <defunct>
rogewood
                                         0 pts/1
0 pts/1
rogewood
             9104
                   0.0
                         0.0
                                   0
                                                            22:22
                                                                     0:00
                                                                           [zombie]
                                                                                    <defunct>
                                                      Z+
Z+
             9106
                                                                           [zombie]
                                   0
                                                            22:22
                                                                     0:00
                                                                                    <defunct>
                   0.0
                         0.0
rogewood
                         0.0
                                                                     0:00
rogewood
             9108
                   0.0
                                   0
                                          0 pts/1
                                                            22:22
                                                                          [zombie]
                                                                                    <defunct>
                   0.0
                                                      Z+
                                                                    0:00
rogewood
             9110
                                   0
                                          0 pts/1
                                                            22:22
                                                                                    <defunct>
                         0.0
                                                                          [zombie]
                                                                    0:00 [zombie] <defunct>
0:00 [zombie] <defunct>
             9112
                   0.0
                                   0
                                          0 pts/1
                                                            22:22
rogewood
                         0.0
             9114
                                   0
                                          0 pts/1
                                                      Z+
                                                            22:22
rogewood
                   0.0
                         0.0
                                                                          grep defunct
rogewood
             9212
                   0.0
                         0.0
                                6924 2560
                                            pts/2
                                                            22:23
                                                                    0:00
```

Ans: 否

2. 請附上截圖證明『zombie』的確會產生10個 zombie。

```
A ► ~/Downloads/SP_HW10 >
                           ps -aux |grep "defunct"
                                                                                       @ 22:13:05
rogewood
            7892 0.0
                       0.0
                                        0 pts/1
                                                         22:16
                                                                                <defunct>
                                        0 pts/1
rogewood
            7894
                                                         22:16
                                                                 0:00
                                                                      [zombie]
                                                                                <defunct>
                  0.0
                        0.0
                                 0
                                                   Z+
rogewood
            7896
                  0.0
                       0.0
                                 0
                                        0 pts/1
                                                         22:16
                                                                 0:00 [zombie]
                                                                                <defunct>
rogewood
            7898
                  0.0
                       0.0
                                 0
                                        0 pts/1
                                                         22:16
                                                                 0:00
                                                                      [zombie]
                                                                                <defunct>
rogewood
            7900
                  0.0
                        0.0
                                 0
                                        0 pts/1
                                                   Z+
                                                         22:16
                                                                 0:00
                                                                       [zombie]
                                                                                <defunct>
                                        0 pts/1
rogewood
            7902
                  0.0
                        0.0
                                 0
                                                   Z+
                                                         22:16
                                                                 0:00
                                                                      [zombie]
                                                                                <defunct>
rogewood
            7904
                                        0 pts/1
                  0.0
                       0.0
                                 0
                                                         22:16
                                                                 0:00
                                                                      [zombie]
                                                                                <defunct>
                                                         22:16
                                                                      [zombie]
[zombie]
rogewood
            7906
                  0.0
                       0.0
                                 0
                                        0 pts/1
                                                                 0:00
                                                                                <defunct>
rogewood
            7908
                  0.0
                        0.0
                                 0
                                        0
                                          pts/1
                                                         22:16
                                                                 0:00
                                                                                <defunct>
                                        0 pts/1
rogewood
            7910
                  0.0
                                 0
                                                         22:16
                                                                 0:00
                                                                      [zombie]
                                                                               <defunct>
                        0.0
                                                   7+
rogewood
            7997
                  0.0
                        0.0
                              6924 2304 pts/2
                                                         22:16
                                                                 0:00 grep defunct
```

3. 請附上截圖證明『nozombie』幾乎不會產生 zombie

```
      A > ~/Downloads/SP_HW10 > ps -aux | grep "defunct"
      ② 22:21:39

      rogewood
      8874 0.0 0.0 0 0 pts/1 Z+ 22:21 0:00 [nozombie] <defunct>

      rogewood
      9024 0.0 0.0 6924 2560 pts/2 S+ 22:21 0:00 grep defunct
```

4. 請說明你的系統中『task_struct』到底有多大,並附上截圖證明你的說法

```
© New Tab, © Split View ∨

Slabinfo(5) File Formats Manual slabinfo(5)

NAME

slabinfo - kernel slab allocator statistics

SYNOPSIS

cat /proc/slabinfo

DESCRIPTION

Frequently used objects in the Linux kernel (buffer heads, inodes, dentries, etc.) have their own cache. The file /proc/slabinfo gives statistics on these caches. The following (edited) output shows an example of the contents of this file:

$ sudo cat /proc/slabinfo slabinfo - version: 2.1

# name ⟨active_objs⟩ <num_objs⟩ <objsize⟩ <objperslab⟩ <pre>pagesperslab⟩ ...
    sigqueue 100 100 160 25 1 : tunables 0 0 0 : slabdata 4 4 0 sighand_cache 355 405 2112 15 8 : tunables 0 0 0 : slabdata 27 27 0 kmalloc-8192 96 96 8192 4 8 : tunables 0 0 0 : slabdata 24 24 0 ...

Manual page slabinfo(5) line 1 (press h for help or q to quit)

Manual page slabinfo(5) line 1 (press h for help or q to quit)
```

sudo cat /proc/slabinfo | grep task_struct

```
A № ~/Downloads/SP_HW10 ) sudo cat /proc/slabinfo | grep task_struct ※ INT © 22:32:38 task_struct 1714 1728 8448 3 8: tunables 0 0 0: slabdata 576 576 0
```

8448 bytes

註: 有參考學長姐的作業