**NCTU OS HW1 report 2018**

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**Q1. hw1\_1**

Run your code and show the difference between osh> ps –f and osh>ps –f &. You also need to explain and how to implement “&”.

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| (有&的時候會有zombie process產生，反之則無)  在處理input時，如果發現有吃到"&"就把background記錄成1(default為0)，然後fork和執行完指令後再判斷background是否為0，若是就sleep再wait等待child process結束。 |

**Q2. hw1\_2**

Tree format(according OS\_hw1.pdf/p.12):

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**Q3. hw1-3**

Please put your result(screen shot).

Also write down the problems you met and solutions.

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| Result |
| Problems & solutions  一開始不知道要wait(&status)，以為他會乖乖的照順序跑，結果跑了之後就整個大亂，才知道原來要用wait來等待子程序跑完，然後因為fork是複製整個到child，所以在print的時候還要多個判斷看看是parent還是child，否則會造成大混亂。 |