操作系统作业2

1. Including the initial parent process, how many processes are created by the program shown in Figure 1?



Figure 1: Program for Question 1.

1. Explain the circumstances under which the line of code marked printf (‘‘LINE J’’) in Figure 2 will be reached.

Figure 2: Program for Question 2.

1. Using the program in Figure 3, identify the values of pid at lines A, B, C, and D. (Assume that the actual pids of the parent and child are 2600 and 2603, respectively.)



Figure 3: Program for Question 3.

1. Using the program shown in Figure 4, explain what the output will be at lines X and Y.

Figure 4: Program for Question 4.

1. For the program in Figure 5, will LINE X be executed, and explain why.

int main(void) {

printf("before execl ...\n");

execl("/bin/ls", "/bin/ls", NULL);

printf("after execl ...\n"); /\*LINE: X\*/

return 0;

}

Figure 5: Program for Question 5.

1. Explain why “terminated state” is necessary for processes.
2. Explain what a zombie process is and when a zombie process will be eliminated (i.e., its PCB entry is removed from kernel).