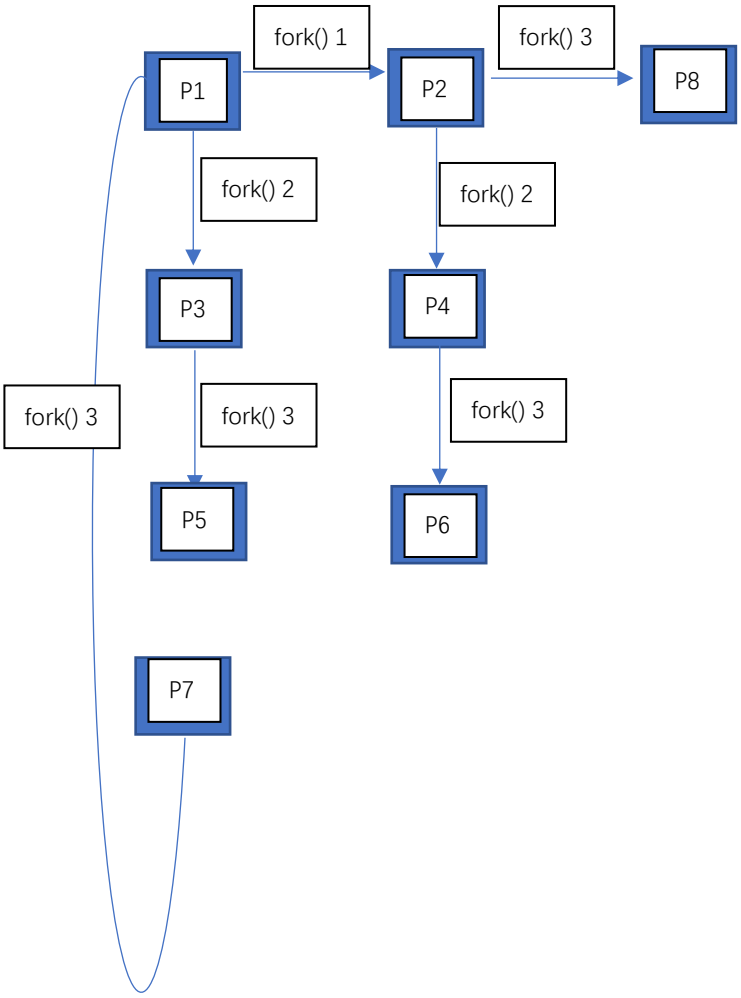
3.2 Including the initial parent process, how many processes are created by the program shown in Figure 3.31?

8 processes are created by the program.
P1 is the parent process.
When first fork() is executed, P2 is created by P1.
When second fork() is executed, P3 is created by P1, P4 is created by p2
When third fork() is executed, P5 is created by P3, P6 is created by p4, P7 is created by P1, P8 is created by p2



3.14 Using the program in Figure 3.34, 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.)

A: 0
B: 2603
C: 2603
D: 2600

A is the return value of the fork() function of child process. And the value is zero.
B is the real pid number of child process, so B is 2603
C is the return value of the fork() function of parent process. And the return value is same as real pid number of child process.
D is the real pid number of parent process.

3.17 Using the program shown in Figure 3.35, explain what the output will be at lines X and Y.

X:
CHILD: 0 CHILD: -1 CHILD : -4 CHILD: -9 CHILD: -16
This will be printed by child process. And this is printed according to the format CHILD: i*(-i), where i from 0 to 4
Y:
PARENT: 0 PARENT: 1 PARENT : 2 PARENT: 3 PARENT: 4
This will be printed by parent process. And this is printed according to the format PARENT: i, where i from 0 to 4