

Homework 5

Problem 1

A) Faults	synchronous	aborts the interrupted program
B) Aborts	synchronous	aborts the interrupted program
C) Traps (System calls)	synchronous	returns control to the next instruction Inext
D) Interrupts	asynchronous	returns control to the next instruction Inext

Problem 2

1 Child: B; Parent: A;

2 B B

 C or A

 A C

No. Because the child for fork line 10 do not block the waitpid in line 15. So the output of line 11 may appear at a random time.

3 Yes. Both the parent and child process exit without calling free, and thus have a memory leakage problem. The grandchild process does not have double free or memory leakage problem.

Problem 3

14.

First iteration generates one child process(2 total), second iteration generates 2 child processes(4 total), third iteration generates 4 child processes(8 total).

$2+4+8=14$.