

2. p2.c fork() and wait() example

parent waits for child to finish first

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$ cat -n ostep/code/cpu-api/p2.c
 1 #include <stdio.h>
 2 #include <stdlib.h>
 3 #include <unistd.h>
 4 #include <sys/wait.h>
 5
 6 int
 7 main(int argc, char *argv[])
 8 {
 9     printf("hello world (pid:%d)\n", (int) getpid());
10     int rc = fork();
11     if (rc < 0) {
12         // fork failed; exit
13         fprintf(stderr, "fork failed\n");
14         exit(1);
15     } else if (rc == 0) {
16         // child (new process)
17         printf("hello, I am child (pid:%d)\n", (int) getpid());
18         sleep(1);
19     } else {
20         // parent goes down this path (original process)
21         int wc = wait(NULL);
22         printf("hello, I am parent of %d (wc:%d) (pid:%d)\n",
23             rc, wc, (int) getpid());
24     }
25     return 0;
26 }
$ ./p2
hello world (pid:21937)
hello, I am child (pid:21938)
hello, I am parent of 21938 (wc:21938) (pid:21937)
$ ./p2
hello world (pid:21939)
hello, I am child (pid:21940)
hello, I am parent of 21940 (wc:21940) (pid:21939)
$
```

--> try checking the child exit status