实验报告封面自己加上

实验报告要求：

1、以下是对execlp进行调试之后显示的调试信息，根据此信息回答问题

执行父进程的进程号是多少？

执行子进程的进程号是多少？

[Detaching after fork from child process 14692. (Try `set detach-on-fork off'.)]

UID       PID         PPID     C         STIME     TTY       TIME          CMD

root     14562      1           0         22:12       ?          00:00:00     gnome-terminal

root     14565     14562     0         22:12      ?           00:00:00     gnome-pty-helper

root     14566     14562     0         22:12     pts/1      00:00:00      bash

root     14675     14566     0         22:15     pts/1      00:00:00      gdb execlp

root     14676     14675     0         22:15     pts/1      00:00:00      /root/7/execlp

root     14692     14676     0         22:15     pts/1       00:00:00      ps -ef

辅助说明：gnome-terminal就是终端进程，bash是shell命令的版本类型，多数Linux发行版本采用bash作为其命令版本；

2、使用gdb调试waitpid()，如果首先执行的是父进程，会出现什么情况？

      如果想要调试子进程应该如何做？？？

3、已知multi\_proc可执行程序的一个可能的执行结果，如下所示：

[root@localhost ~]# ./multi\_proc

In child1: execute 'ls -l'

In child2: sleep for 5 seconds and then exit

In father process:

总计 96

 -rw------- 1 root root 1155 2014-09-26 anaconda-ks.cfg

drwxr-xr-x 2 root root 4096 2014-09-26 Desktop

-rw-r--r-- 1 root root 35507 2014-09-26 install.log

-rw-r--r-- 1 root root 4399 2014-09-26 install.log.syslog

drwxrwxrwx 10 root root 4096 02-26 08:27 linux

-rwxr-xr-x 1 root root 5760 03-16 12:42 multi\_proc

drwxr-xr-x 3 root root 4096 01-05 08:57 vmtools

Get child1 exit code

The child2 process has not exited!

The child2 process has not exited!

The child2 process has not exited!

The child2 process has not exited!

The child2 process has not exited!

Get child2 exit code

[root@localhost ~]#

假设CPU是单核，即某时刻只有一个进程在CPU上运行，试说明这些结果是如何运行出来的？

是否可以设置进程间的执行顺序，如果可以应该怎么做？

 4、针对GDB多进程调试视频中的问题。

为什么在GDB中，以默认的调试方式调试waitpid程序；将子进程sleep(5);上下加两条打印语句，如下所示：

printf("The child process is running!\n"); /\*子进程暂停5s\*/

sleep(5);

printf("The child process is quitted!\n"); /\*子进程正常退出\*/

exit(0);

两条printf()之间父进程只打印4条The child process has not exited语句；如下面代码所示：

(gdb) r

Starting program: /root/7/waitpid\_GDB多进程调试 \_子进程有打印语句

Error in re-setting breakpoint 1: Function "waitpid\_GDB多进程调试" not defined.

Detaching after fork from child process 32028.

The child process has not exited

The child process is running!

The child process has not exited

The child process has not exited

The child process has not exited

The child process has not exited

The child process is quitted!

The father process quit because the child process quit.

The return of waitpid() is the child process PID : 32028

Program exited normally.

(gdb)

而在./waitpid\_GDB多进程调试Shell命令行执行中两条printf()之间父进程却打印5条The child process has not exited语句？

[tom@localhost ~]$ ./waitpid\_GDB多进程调试

The child process is running!

The child process has not exited

The child process has not exited

The child process has not exited

The child process has not exited

The child process has not exited

The child process is quitted!

The father process quit because the child process quit.

The return of waitpid() is the child process PID : 7059

5、守护进程创建的步骤是什么？它有什么作用？