

1、signal设置信号处理行为，演示不同信号到来时，后来的信号会打断原有信号的信号处理函数效果

- 在处理信号2的过程中来了信号3，此时则会先执行信号3，等信号3执行完毕再执行信号2

```
^Cbefore sleep the signal is 2
^\\before sleep the signal is 3
after sleep the signal is 3
after sleep the signal is 2
```

2、signal设置信号处理行为，演示相同信号到来时，无法打断本信号的效果

- 在处理信号2的过程中来了信号2，不影响当前信号的执行

```
^Cbefore sleep the signal is 2
^C^C^C^C^C^C^C^C^Cafter sleep the signal is 2
before sleep the signal is 2
after sleep the signal is 2
```

3、sigaction实现信号不断重入的执行效果(来回打断的效果)

```

^\\^C^\\^C^\\^Cafter sleep the signal is 2
before sleep the signal is 2
after sleep the signal is 2
• after sleep the signal is 3
before sleep the signal is 3
, after sleep the signal is 3

```

4、sigaction实现2号信号，屏蔽3号信号的执行效果，同时在2号信号的信号处理流程中，判断3号信号是否被挂起

```

lcrsgk@ubuntu:~/day36/homework04$ ./homework04
^Cthe signal number is 2
^C^C^C
the 2 signal end
the signal number is 2
the 2 signal end
^Cthe signal number is 2
the 2 signal end
^CQuit (core dumped)
lcrsgk@ubuntu:~/day36/homework04$

```

5、通过sigaction，打印发送信号的发送者的pid和uid。

```
gcc homework05.c -o homework05
dcrsgk@ubuntu:~/day36/homework05$ ./homework05
^Cthr signal pid = 0,uid = 0
^C\
^Cthr signal pid = 0,uid = 0
• ^Cthr signal pid = 0,uid = 0
^Cthr signal pid = 0,uid = 0
^Cthr signal pid = 0,uid = 0
^Cthr signal pid = 0,uid = 0
^Cthr signal pid = 0,uid = 0
^Cthr signal pid = 0,uid = 0
```

6、通过sigprocmask阻塞2号信号，睡眠5秒后，解除阻塞，2号信号得到执行；在睡眠后，解除阻塞之前，通过sigpending检测是否有信号挂起

- sigprocmask没听懂 周末补上

7、使用真实计时器，实用计时器，虚拟计时器，统计程序执行时间，在实用计时器及虚拟计时器设定计时后，先睡眠，再让程序处于while (1)

- 竞争时间可以查看cpu占用率

PPID	PID	USER	PR	NI	VIRT	RES	SHR	S	CP	MEM	TIME	COMMAND
24	dcrsgk	20	0	4504	736	676	R	49.7	0.0	0:19.69	while	
25	dcrsgk	20	0	4504	796	732	R	49.7	0.0	0:10.42	vir_count	

- 真实计时器：

```
dcrsgk@ubuntu:~/day36/homework07$ ./time_count
now time is:
now time = Thu Apr 23 22:44:50 2020

now time = Thu Apr 23 22:44:51 2020

now time = Thu Apr 23 22:44:52 2020

now time = Thu Apr 23 22:44:53 2020
○ now time = Thu Apr 23 22:44:54 2020

now time = Thu Apr 23 22:44:55 2020

now time = Thu Apr 23 22:44:56 2020

now time = Thu Apr 23 22:44:57 2020

^C
```

- 实用计时器

- 在运行时用while1抢时间片造成运行时间变长

```
DCRSgk - dcrsgk@ubuntu: ~ - Xshell 6
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://dcrsgk*****@192.168.10.130:22
要添加当前会话，点击左侧的箭头按钮。
+ 1 DCRSgk +
0 S gdm 1289 1208 0 80 0 - 51222 - 19:13 tty1
4 S colord 1307 1 0 80 0 - 81252 - 19:14 ?
4 S root 1477 1 0 80 0 - 26923 - 19:18 ?
4 S root 1479 1 0 80 0 - 75915 - 19:18 ?
1 I root 1589 2 0 80 0 - 0 - 20:17 ?
4 S root 1595 742 0 80 0 - 26946 - 20:33 ?
4 S dcrsgk 1597 1 0 80 0 - 19194 ep_pol 20:33 ?
5 S dcrsgk 1598 1597 0 80 0 - 48972 - 20:33 ?
5 S dcrsgk 1695 1595 0 80 0 - 27521 - 20:33 ?
0 S dcrsgk 1697 1695 0 80 0 - 7709 wait 20:33 pts/(
4 S root 1815 742 0 80 0 - 26946 - 20:35 ?
5 S dcrsgk 1879 1815 0 80 0 - 27521 - 20:35 ?
0 S dcrsgk 1880 1879 0 80 0 - 7478 poll_s 20:35 pts/(
4 S root 1953 742 0 80 0 - 26946 - 20:36 ?
5 S dcrsgk 2017 1953 0 80 0 - 27521 - 20:36 ?
0 S dcrsgk 2018 2017 0 80 0 - 7478 wait 20:36 pts/(
1 I root 2329 2 0 80 0 - 0 - 21:05 ?
0 R dcrsgk 2496 1697 91 80 0 - 1126 - 21:38 pts/(
0 R dcrsgk 2497 2018 0 80 0 - 11693 - 21:42 pts/(
dcrsgk@ubuntu:~$ kill -9 2496
dcrsgk@ubuntu:~$ man time
dcrsgk@ubuntu:~$ man 2 time
dcrsgk@ubuntu:~$ vim while1.c
Press ENTER or type command to continue
dcrsgk@ubuntu:~$
dcrsgk@ubuntu:~$ gcc while1.c -o while
dcrsgk@ubuntu:~$ ./while
Hello world
^C
dcrsgk@ubuntu:~$
```

```
DCRSgk - dcrsgk@ubuntu: ~/day36/homework07 - Xshell 6
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://dcrsgk*****@192.168.10.130:22
要添加当前会话，点击左侧的箭头按钮。
+ 1 DCRSgk + 2 DCRSgk
dcrsgk@ubuntu:~/day36/homework07$ ./prof_count
now time is:
now time = Thu Apr 23 23:01:36 2020
the process will sleep 2 second
now time = Thu Apr 23 23:01:40 2020
now time = Thu Apr 23 23:01:42 2020
now time = Thu Apr 23 23:01:44 2020
now time = Thu Apr 23 23:01:46 2020
now time = Thu Apr 23 23:01:48 2020
now time = Thu Apr 23 23:01:50 2020
now time = Thu Apr 23 23:01:52 2020
now time = Thu Apr 23 23:01:53 2020
now time = Thu Apr 23 23:01:54 2020
now time = Thu Apr 23 23:01:55 2020
now time = Thu Apr 23 23:01:56 2020
^C
dcrsgk@ubuntu:~/day36/homework07$
```

- 虚拟计时器

```
the process will sleep 3 second
now time = Thu Apr 23 23:09:50 2020
now time = Thu Apr 23 23:09:52 2020
now time = Thu Apr 23 23:09:54 2020
now time = Thu Apr 23 23:09:56 2020
now time = Thu Apr 23 23:09:58 2020
now time = Thu Apr 23 23:10:00 2020
now time = Thu Apr 23 23:10:02 2020
now time = Thu Apr 23 23:10:04 2020
now time = Thu Apr 23 23:10:05 2020
此时结束while1
```