

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ  
федеральное государственное автономное образовательное учреждение высшего образования  
Санкт-Петербургский национальный исследовательский университет информационных технологий,  
механики и оптики

Мегафакультет трансляционных информационных технологий

Факультет информационных технологий и программирования

### **Лабораторная работа №5**

**Выполнил студент группы №М3208  
Карпов Егор Витальевич**

**Проверил  
Осипов Святослав**

САНКТ-ПЕТЕРБУРГ  
2020

Эксперимент 1

Первый этап:

```
[ 3498.796068] [ 830] 0 830 6592 3 94208 302 0 smartd
[ 3498.796810] [ 831] 0 831 105552 0 446464 507 0 sssd
[ 3498.797643] [ 833] 81 833 17719 131 163840 101 -900 dbus-daemon
[ 3498.798525] [ 834] 70 834 20688 19 176128 103 0 avahi-daemon
[ 3498.799539] [ 841] 997 841 4718 0 69632 39 0 lsmd
[ 3498.800664] [ 846] 70 846 20655 0 151552 108 0 avahi-daemon
[ 3498.802301] [ 850] 991 850 40057 0 200704 207 0 rngd
[ 3498.803184] [ 852] 0 852 77886 0 180224 172 0 gssproxy
[ 3498.805614] [ 865] 0 865 107190 17 442368 618 0 sssd_be
[ 3498.807139] [ 867] 0 867 107778 89 458752 322 0 sssd_nss
[ 3498.807942] [ 870] 0 870 124680 0 466944 5501 0 firewallld
[ 3498.808804] [ 872] 0 872 24459 216 221184 448 0 systemd-logind
[ 3498.811370] [ 883] 0 883 170193 121 430080 530 0 NetworkManager
[ 3498.813049] [ 892] 0 892 23242 0 204800 233 -1000 sshd
[ 3498.814325] [ 894] 0 894 158766 131 450560 3574 0 tuned
[ 3498.815647] [ 1124] 0 1124 61463 0 118784 232 0 crond
[ 3498.817052] [ 1129] 0 1129 10656 0 110592 50 0 atd
[ 3498.818150] [ 1471] 0 1471 33689 0 270336 239 0 login
[ 3498.819549] [ 1488] 1000 1488 23463 3 212992 362 0 systemd
[ 3498.820517] [ 1493] 1000 1493 61685 0 319488 1308 0 (sd-pam)
[ 3498.821135] [ 1499] 1000 1499 58620 1 86016 504 0 bash
[ 3498.822337] [ 1602] 1000 1602 64235 1 151552 8677 0 mem.bash
[ 3498.823505] [ 145706] 1000 45706 64235 0 126976 8677 0 mem.bash
[ 3498.824588] [ 145708] 1000 45708 56876 1 86016 1322 0 mem.bash
[ 3498.825164] [ 152151] 1000 52151 56876 0 61440 1322 0 mem.bash
[ 3498.827219] [ 152157] 1000 52157 56711 1 86016 1167 0 mem.bash
[ 3498.828425] [ 157806] 1000 57806 56711 0 57344 1167 0 mem.bash
[ 3498.829056] [ 157808] 1000 57808 56942 507 86016 880 0 mem.bash
[ 3498.829861] [ 164582] 1000 64582 97202 10708 405504 30899 0 mem.bash
[ 3498.830517] [ 164587] 1000 64587 611672 409945 4526080 146166 0 mem.bash
[ 3498.831116] [ 164589] 0 64589 80843 236 249856 132 0 crond
[ 3498.831707] Out of memory: Killed process 64587 (mem.bash) total-vm:2446688kB, anon-rss:1639780kB
, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 3498.939385] oom_reaper: reaped process 64587 (mem.bash), now anon-rss:0kB, file-rss:0kB, shmem-rs
s:0kB
Killed
[user@localhost lab5]$
```

Top

```
Tasks: 108 total, 3 running, 97 sleeping, 8 stopped, 0 zombie
%Cpu(s): 82.3 us, 16.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 1475.2 free, 255.2 used, 96.7 buff/cache
MiB Swap: 820.0 total, 572.4 free, 247.6 used. 1450.1 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR S  %CPU  %MEM    TIME+  COMMAND
 64650 user       20   0 335480 115960 2968 R   97.3   6.2   0:04.77 mem.bash
    9 root       20   0     0     0     0 S    0.3   0.0   0:00.55 ksoftirqd/0
    1 root       20   0 179200   6584 4156 S    0.0   0.4   0:02.05 systemd
    2 root       20   0     0     0     0 S    0.0   0.0   0:00.00 kthreadd
    3 root       0 -20     0     0     0 I    0.0   0.0   0:00.00 rcu_gp
```

```

top - 16:45:37 up 1:08, 2 users, load average: 1.04, 0.44, 0.36
Tasks: 108 total, 4 running, 96 sleeping, 8 stopped, 0 zombie
%Cpu(s): 82.6 us, 15.7 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 938.7 free, 786.4 used, 102.0 buff/cache
MiB Swap: 820.0 total, 572.4 free, 247.6 used, 916.2 avail Mem

```

PID	USER	PR	NI	UIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
64650	user	20	0	878396	659008	2968	R	97.7	35.2	0:28.36	mem.bash
9	root	20	0	0	0	0	S	0.3	0.0	0:00.64	ksoftirqd/0
64651	user	20	0	274272	4892	4112	R	0.3	0.3	0:00.01	top
1	root	20	0	179200	6584	4156	S	0.0	0.4	0:02.05	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp

```

Tasks: 108 total, 3 running, 97 sleeping, 8 stopped, 0 zombie
%Cpu(s): 82.4 us, 15.6 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 743.0 free, 980.0 used, 104.0 buff/cache
MiB Swap: 820.0 total, 572.4 free, 247.6 used, 721.5 avail Mem

```

PID	USER	PR	NI	UIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
64650	user	20	0	1076396	857008	2968	R	97.3	45.8	0:37.15	mem.bash
9	root	20	0	0	0	0	S	0.3	0.0	0:00.67	ksoftirqd/0
1	root	20	0	179200	6584	4156	S	0.0	0.4	0:02.05	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par_gp

```

top - 16:46:14 up 1:09, 2 users, load average: 1.75, 0.70, 0.45
Tasks: 108 total, 4 running, 96 sleeping, 8 stopped, 0 zombie
%Cpu(s): 81.1 us, 16.8 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 129.1 free, 1587.1 used, 110.9 buff/cache
MiB Swap: 820.0 total, 572.4 free, 247.6 used, 111.0 avail Mem

```

PID	USER	PR	NI	UIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
64650	user	20	0	1696796	1.4g	2968	R	97.7	79.0	1:04.06	mem.bash
9	root	20	0	0	0	0	S	0.3	0.0	0:00.76	ksoftirqd/0
1	root	20	0	179200	6584	4156	S	0.0	0.4	0:02.05	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par_gp
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/0:0H-kblockd

```

top - 16:46:29 up 1:09, 2 users, load average: 1.96, 0.80, 0.49
Tasks: 108 total, 3 running, 97 sleeping, 8 stopped, 0 zombie
%Cpu(s): 78.3 us, 19.3 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 65.0 free, 1728.5 used, 33.6 buff/cache
MiB Swap: 820.0 total, 399.1 free, 420.9 used, 8.8 avail Mem

```

PID	USER	PR	NI	UIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
64650	user	20	0	2015576	1.6g	568	R	93.3	89.3	1:18.62	mem.bash
47	root	20	0	0	0	0	S	2.9	0.0	0:06.66	kswapd0
9	root	20	0	0	0	0	S	0.6	0.0	0:00.83	ksoftirqd/0
64644	root	20	0	0	0	0	I	0.3	0.0	0:00.05	kworker/0:0-events_power_ef+
1	root	20	0	179200	548	140	S	0.0	0.0	0:02.05	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par_gp

```

top - 16:46:36 up 1:09, 2 users, load average: 2.04, 0.84, 0.50
Tasks: 108 total, 4 running, 96 sleeping, 8 stopped, 0 zombie
%Cpu(s): 77.6 us, 18.9 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.6 si, 0.0 st
MiB Mem : 1827.1 total, 74.0 free, 1719.3 used, 33.7 buff/cache
MiB Swap: 820.0 total, 258.3 free, 561.7 used, 17.9 avail Mem

```

PID	USER	PR	NI	UIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
64650	user	20	0	2139392	1.6g	568	R	92.1	88.2	1:24.65	mem.bash
47	root	20	0	0	0	0	S	3.6	0.0	0:06.90	kswapd0
9	root	20	0	0	0	0	R	0.3	0.0	0:00.86	ksoftirqd/0
894	root	20	0	635064	584	172	S	0.3	0.0	0:00.83	tuned
64652	user	20	0	274272	1384	964	R	0.3	0.1	0:00.05	top
1	root	20	0	179200	172	140	S	0.0	0.0	0:02.05	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd

```

top - 16:46:55 up 1:09, 2 users, load average: 2.01, 0.91, 0.54
Tasks: 107 total, 2 running, 97 sleeping, 8 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.7 sy, 0.0 ni, 97.0 id, 1.7 wa, 0.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 1697.0 free, 90.6 used, 39.4 buff/cache
MiB Swap: 820.0 total, 520.1 free, 299.9 used, 1643.5 avail Mem

```

[ 4184.439977]	[ 852]	0	852	77886	0	180224	172	0	gssproxy		
650	root	20	0	94000	2496	2340	S	0.7	0.1	0:00.46	systemd-journal
19	root	20	0	0	0	0	S	0.3	0.0	0:00.16	oom_reaper
883	root	20	0	680772	84	0	S	0.3	0.0	0:00.18	NetworkManager
1	root	20	0	179200	260	0	S	0.0	0.0	0:02.06	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp

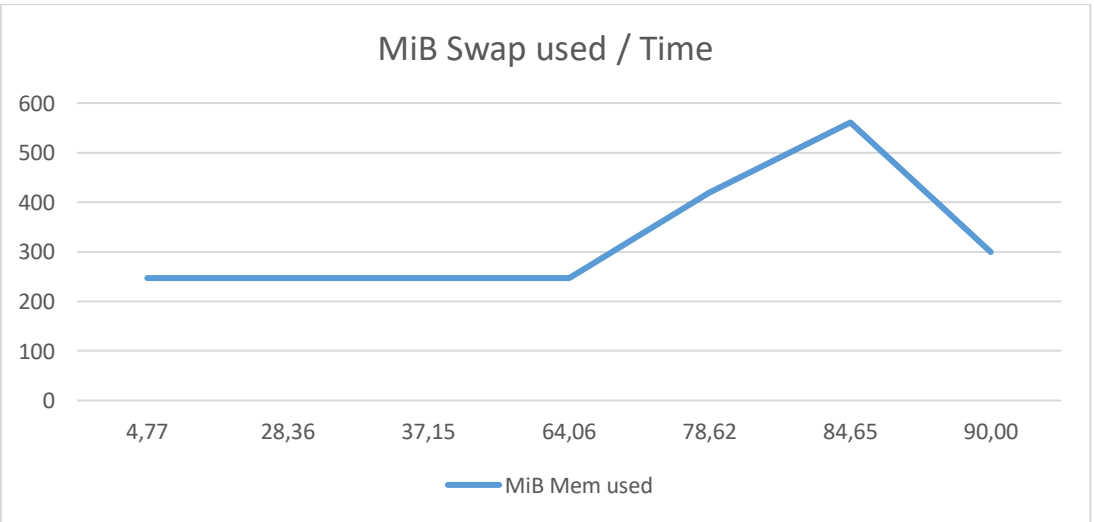
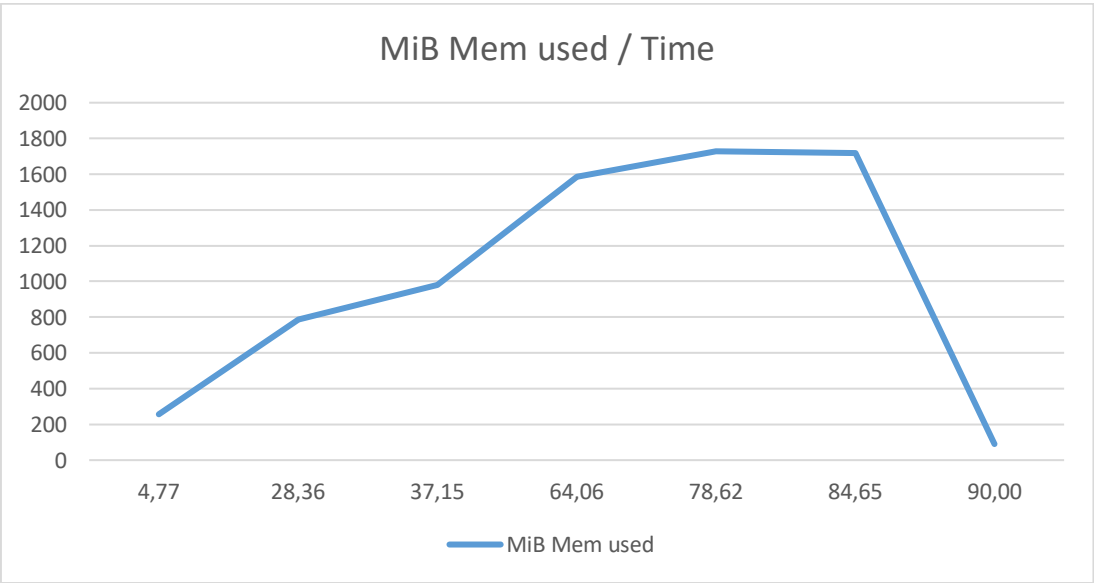
Dmesg | grep "mem.bash"

Последние 2 записи о скрипте в системном журнале

```
rss:0kB
[ 2113.339796] [ 1632] 1000 1632 663614 421718 4947968 186339 0 neumen.b
[ 2113.340416] Out of memory: Killed process 1632 (neumen.bash) total-vn:2654456kB, anon-rss:
kB, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 2113.502552] oom_reaper: reaped process 1632 (neumen.bash), now anon-rss:0kB, file-rss:0kB,
rss:0kB
[ 2803.137908] [ 1678] 1000 1678 664142 421212 4956160 187361 0 mcn.bash
[ 2803.138387] Out of memory: Killed process 1678 (mcn.bash) total-vn:2656568kB, anon-rss:168
file-rss:0kB, shmem-rss:0kB, UID:1000
[ 2803.225722] oom_reaper: reaped process 1678 (mcn.bash), now anon-rss:0kB, file-rss:0kB, sh
:0kB
[user@localhost lab5]$ _
```

Последняя строка report.log

```
[user@localhost lab5]$ cat report.log | tail -n 1
31000000
```



## Второй этап:

```
top - 17:08:35 up 1:31, 2 users, load average: 0.69, 0.67, 0.47
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.3 us, 15.7 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 1513.0 free, 226.9 used, 87.1 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 1483.2 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 289016 69468 2932 R 48.8 3.7 0:02.87 mem2.bash
64700 user 20 0 287696 68560 3092 R 48.5 3.7 0:02.87 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.37 ksoftirqd/0
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
```

```
top - 17:08:38 up 1:31, 2 users, load average: 0.69, 0.67, 0.47
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.3 us, 16.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 1450.0 free, 289.4 used, 87.7 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 1420.4 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 319772 100504 3092 R 48.8 5.4 0:04.34 mem.bash
64701 user 20 0 320828 101412 2932 R 48.5 5.4 0:04.33 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.38 ksoftirqd/0
10 root 20 0 0 0 0 R 0.3 0.0 0:00.41 rcu_sched
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
```

```
top - 17:08:44 up 1:31, 2 users, load average: 0.95, 0.72, 0.49
Tasks: 109 total, 6 running, 94 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.8 us, 15.2 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 1332.3 free, 405.9 used, 88.9 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 1303.3 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 378248 158848 3092 R 49.0 8.5 0:07.30 mem.bash
64701 user 20 0 381548 162132 2932 R 48.0 8.7 0:07.25 mem2.bash
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
```

```
top - 17:08:59 up 1:31, 2 users, load average: 1.48, 0.85, 0.54
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.8 us, 16.5 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 1025.4 free, 709.7 used, 92.0 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 997.9 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 538760 319476 2932 R 48.8 17.1 0:14.59 mem2.bash
64700 user 20 0 531500 312232 3092 R 48.2 16.7 0:14.62 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.46 ksoftirqd/0
10 root 20 0 0 0 0 R 0.3 0.0 0:00.42 rcu_sched
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
```

```
top - 17:09:05 up 1:31, 2 users, load average: 1.87, 0.96, 0.58
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.0 us, 15.6 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 908.9 free, 825.1 used, 93.1 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 882.0 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 590108 370840 3092 R 48.7 19.8 0:17.55 mem.bash
64701 user 20 0 590028 378612 2932 R 48.0 20.2 0:17.49 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.48 ksoftirqd/0
64688 user 20 0 274272 1904 1508 R 0.3 0.1 0:00.97 top
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
```

```

top - 17:09:08 up 1:32, 2 users, load average: 1.87, 0.96, 0.58
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.4 us, 15.9 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 850.9 free, 882.5 used, 93.7 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 824.3 avail Mem

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 627992 408444 2932 R 48.7 21.8 0:18.95 mem2.bash
64700 user 20 0 618752 399616 3092 R 48.3 21.4 0:19.00 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.49 ksoftirqd/0
64696 root 20 0 0 0 0 R 0.3 0.0 0:00.01 kworker/0:2-events_power_ef+
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp

```

```

top - 17:09:14 up 1:32, 2 users, load average: 2.04, 1.01, 0.60
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.8 us, 15.5 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 737.7 free, 994.6 used, 94.8 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 711.7 avail Mem

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 675908 456640 3092 R 48.5 24.4 0:21.93 mem.bash
64701 user 20 0 685412 465996 2932 R 48.2 24.9 0:21.85 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.51 ksoftirqd/0
10 root 20 0 0 0 0 R 0.3 0.0 0:00.43 rcu_sched
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp

```

```

top - 17:09:17 up 1:32, 2 users, load average: 2.20, 1.06, 0.61
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.6 us, 15.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 678.4 free, 1053.3 used, 95.4 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 652.6 avail Mem

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 705608 486208 3092 R 48.8 26.0 0:23.40 mem.bash
64701 user 20 0 715772 496356 2932 R 48.5 26.5 0:23.31 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.52 ksoftirqd/0
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp

```

```

top - 17:09:20 up 1:32, 2 users, load average: 2.34, 1.11, 0.63
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.3 us, 15.6 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 619.1 free, 1112.0 used, 95.9 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 593.6 avail Mem

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 735308 516040 3092 R 48.7 27.6 0:24.87 mem.bash
64701 user 20 0 746000 526452 2932 R 48.7 28.1 0:24.78 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.53 ksoftirqd/0
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp

```

```

top - 17:09:23 up 1:32, 2 users, load average: 2.34, 1.11, 0.63
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.0 us, 16.3 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 560.4 free, 1170.1 used, 96.5 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used. 535.2 avail Mem

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 776360 556812 2932 R 48.5 29.8 0:26.24 mem2.bash
64700 user 20 0 764480 545080 3092 R 48.2 29.1 0:26.32 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.54 ksoftirqd/0
64688 user 20 0 274272 1904 1508 R 0.3 0.1 0:00.99 top
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp

```

```
top - 17:09:32 up 1:32, 2 users, load average: 2.60, 1.20, 0.67
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.9 us, 16.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.1 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 389.2 free, 1339.6 used, 98.2 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used, 364.9 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 849620 630352 3092 R 49.0 33.7 0:30.71 mem.bash
64701 user 20 0 864404 644988 2932 R 48.7 34.5 0:30.63 mem2.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.57 ksoftirqd/0
64696 root 20 0 0 0 0 I 0.3 0.0 0:00.02 kworker/0:2-events_power_ef+
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
```

```
top - 17:09:35 up 1:32, 2 users, load average: 2.71, 1.25, 0.69
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 80.8 us, 16.5 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 331.2 free, 1397.1 used, 98.8 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used, 307.1 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 893708 674292 2932 R 48.7 36.0 0:32.10 mem2.bash
64700 user 20 0 878924 659656 3092 R 48.0 35.3 0:32.16 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.58 ksoftirqd/0
64688 user 20 0 274272 1904 1508 R 0.3 0.1 0:01.00 top
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
```

```
top - 17:09:38 up 1:32, 2 users, load average: 2.71, 1.25, 0.69
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 80.8 us, 16.8 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 272.4 free, 1455.3 used, 99.4 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used, 248.6 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 923804 704388 2932 R 48.5 37.6 0:33.56 mem2.bash
64700 user 20 0 908492 689224 3092 R 48.2 36.8 0:33.61 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.59 ksoftirqd/0
10 root 20 0 0 0 0 R 0.3 0.0 0:00.44 rcu_sched
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
```

```
top - 17:09:47 up 1:32, 2 users, load average: 2.91, 1.34, 0.72
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.2 us, 17.1 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 94.2 free, 1631.7 used, 101.1 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used, 71.4 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 997856 778720 3092 R 48.8 41.6 0:38.04 mem.bash
64701 user 20 0 1014620 795204 2932 R 48.8 42.5 0:37.94 mem2.bash
64688 user 20 0 274272 1904 1508 R 0.7 0.1 0:01.02 top
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
```

```
top - 17:09:50 up 1:32, 2 users, load average: 3.00, 1.38, 0.74
Tasks: 109 total, 5 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 80.7 us, 16.6 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 73.8 free, 1687.8 used, 65.4 buff/cache
MiB Swap: 820.0 total, 522.5 free, 297.5 used, 33.1 avail Mem
```

```
[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 1043792 824244 2932 R 48.7 44.1 0:39.41 mem2.bash
64700 user 20 0 1026104 806968 3092 R 48.0 43.1 0:39.49 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.62 ksoftirqd/0
47 root 20 0 0 0 0 S 0.3 0.0 0:12.74 kswapd0
1 root 20 0 179200 5504 3760 S 0.0 0.3 0:02.11 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
```

```

top - 17:09:53 up 1:32, 2 users, load average: 3.00, 1.38, 0.74
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 78.1 us, 18.5 sy, 0.0 ni, 0.9 id, 0.0 wa, 2.2 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 73.5 free, 1718.9 used, 34.6 buff/cache
MiB Swap: 820.0 total, 488.8 free, 331.2 used, 17.7 avail Mem

```

```

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 1057256 818856 576 R 47.1 43.8 0:41.03 mem.bash
64701 user 20 0 1075868 837476 576 R 46.5 44.8 0:40.93 mem2.bash
47 root 20 0 0 0 0 S 2.4 0.0 0:12.82 kswapd0
9 root 20 0 0 0 0 R 0.6 0.0 0:01.64 ksoftirqd/0
64688 user 20 0 274272 416 20 R 0.3 0.0 0:01.03 top
1 root 20 0 179200 2012 268 S 0.0 0.1 0:02.11 systemd

```

```

top - 17:10:06 up 1:32, 2 users, load average: 3.60, 1.60, 0.82
Tasks: 110 total, 6 running, 95 sleeping, 9 stopped, 0 zombie
%Cpu(s): 77.5 us, 19.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 3.2 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 70.2 free, 1715.1 used, 41.7 buff/cache
MiB Swap: 820.0 total, 257.9 free, 562.1 used, 18.1 avail Mem

```

```

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64700 user 20 0 1169720 814976 576 R 45.9 43.6 0:46.73 mem.bash
64701 user 20 0 1190576 832492 576 R 45.0 44.5 0:46.58 mem2.bash
47 root 20 0 0 0 0 S 2.9 0.0 0:13.21 kswapd0
9 root 20 0 0 0 0 S 0.7 0.0 0:01.70 ksoftirqd/0
1 root 20 0 179200 5152 3296 S 0.3 0.3 0:02.12 systemd
833 dbus 20 0 70876 1944 1440 S 0.3 0.1 0:00.31 dbus-daemon
872 root 20 0 97836 3216 2816 R 0.3 0.2 0:00.46 systemd-logind

```

```

top - 17:10:12 up 1:33, 2 users, load average: 3.71, 1.65, 0.84
Tasks: 110 total, 4 running, 97 sleeping, 9 stopped, 0 zombie
%Cpu(s): 78.0 us, 19.3 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.4 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 77.0 free, 1717.8 used, 32.2 buff/cache
MiB Swap: 820.0 total, 153.0 free, 667.0 used, 19.9 avail Mem

```

```

[ 5261.229197] [ 865] 0 865 107190 16 442368 619 0 sssd_be
64701 user 20 0 1248392 835192 576 R 47.5 44.6 0:49.41 mem2.bash
64700 user 20 0 1226348 817420 576 R 46.8 43.7 0:49.53 mem.bash
47 root 20 0 0 0 0 S 2.3 0.0 0:13.39 kswapd0
9 root 20 0 0 0 0 S 0.3 0.0 0:01.73 ksoftirqd/0
1488 user 20 0 93852 1516 1324 S 0.3 0.1 0:00.08 systemd
1 root 20 0 179200 3740 1884 S 0.0 0.2 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd

```

```

top - 17:10:39 up 1:33, 2 users, load average: 3.54, 1.81, 0.92
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 82.2 us, 15.8 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 560.0 free, 1224.4 used, 42.6 buff/cache
MiB Swap: 820.0 total, 264.7 free, 555.3 used, 508.0 avail Mem

```

```

[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 1637000 1.1g 1668 R 97.3 61.6 1:10.03 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.83 ksoftirqd/0
1 root 20 0 179200 3200 1464 S 0.0 0.2 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq

```

```

top - 17:10:48 up 1:33, 2 users, load average: 3.50, 1.83, 0.93
Tasks: 109 total, 3 running, 97 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.5 us, 16.5 sy, 0.0 ni, 0.0 id, 0.0 wa, 1.7 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 388.2 free, 1394.1 used, 44.7 buff/cache
MiB Swap: 820.0 total, 264.7 free, 555.3 used, 337.2 avail Mem

```

```

[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 1810316 1.3g 1668 R 97.7 70.8 1:18.80 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.86 ksoftirqd/0
64706 root 20 0 0 0 0 I 0.3 0.0 0:00.02 kworker/0:3-ata_sff
1 root 20 0 179200 3200 1464 S 0.0 0.2 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq

```



```
top - 17:10:54 up 1:33, 2 users, load average: 3.42, 1.87, 0.96
Tasks: 109 total, 3 running, 97 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.5 us, 16.1 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 270.6 free, 1510.4 used, 46.0 buff/cache
MiB Swap: 820.0 total, 264.8 free, 555.2 used, 220.3 avail Mem
```

```
[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 1929116 1.4g 1668 R 97.3 77.2 1:24.64 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.87 ksoftirqd/0
1 root 20 0 179200 3200 1464 S 0.0 0.2 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq
```

```
top - 17:11:00 up 1:33, 2 users, load average: 3.39, 1.89, 0.97
Tasks: 109 total, 3 running, 97 sleeping, 9 stopped, 0 zombie
%Cpu(s): 81.8 us, 16.2 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 153.4 free, 1626.4 used, 47.3 buff/cache
MiB Swap: 820.0 total, 264.8 free, 555.2 used, 103.7 avail Mem
```

```
[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 2047652 1.5g 1668 R 97.3 83.5 1:30.49 mem.bash
9 root 20 0 0 0 0 S 0.3 0.0 0:01.89 ksoftirqd/0
1 root 20 0 179200 3200 1464 S 0.0 0.2 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq
```

```
top - 17:11:13 up 1:34, 2 users, load average: 3.33, 1.93, 0.99
Tasks: 109 total, 3 running, 97 sleeping, 9 stopped, 0 zombie
%Cpu(s): 78.9 us, 18.4 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.3 hi, 0.3 si, 0.0 st
MiB Mem : 1827.1 total, 67.1 free, 1729.2 used, 30.8 buff/cache
MiB Swap: 820.0 total, 126.4 free, 693.6 used, 9.4 avail Mem
```

```
[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 2288420 1.6g 604 R 93.1 88.9 1:42.20 mem.bash
47 root 20 0 0 0 0 S 2.6 0.0 0:14.50 kswapd0
9 root 20 0 0 0 0 S 0.3 0.0 0:01.94 ksoftirqd/0
1 root 20 0 179200 1612 0 S 0.0 0.1 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-kblockd
```

```
top - 17:11:16 up 1:34, 2 users, load average: 3.30, 1.95, 1.00
Tasks: 109 total, 4 running, 96 sleeping, 9 stopped, 0 zombie
%Cpu(s): 76.9 us, 19.5 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.9 hi, 0.7 si, 0.0 st
MiB Mem : 1827.1 total, 62.9 free, 1733.2 used, 31.0 buff/cache
MiB Swap: 820.0 total, 74.9 free, 745.1 used, 5.3 avail Mem
```

```
[ 5594.909996] [ 867] 0 867 107778 83 458752 331 0 sssd_nss
64700 user 20 0 2344652 1.6g 604 R 93.6 89.1 1:45.13 mem.bash
47 root 20 0 0 0 0 D 2.9 0.0 0:14.59 kswapd0
9 root 20 0 0 0 0 S 0.6 0.0 0:01.96 ksoftirqd/0
64688 user 20 0 274272 400 0 R 0.3 0.0 0:01.15 top
1 root 20 0 179200 1480 0 S 0.0 0.1 0:02.12 systemd
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_gp
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 rcu_par_gp
```

Dmesg | grep "mem[2]\*.bash"

```

[ 2028.856865] Out of memory: Killed process 1618 (neumen.bash) total-vn:392504kB, anon-rss:1
, file-rss:464kB, shmem-rss:0kB, UID:1000
[ 2029.000926] oom_reaper: reaped process 1618 (neumen.bash), now anon-rss:0kB, file-rss:0kB,
rss:0kB
[ 2081.711593] neumen.bash invoked oom-killer: gfp_mask=0x6200ca(GFP_HIGHUSER_MOVABLE), nodem
(1), order=0, oom_score_adj=0
[ 2081.712349] neumen.bash cpuset=/ mems_allowed=0
[ 2081.713175] CPU: 0 PID: 1620 Comm: neumen.bash Kdump: loaded Tainted: G          --
r- - 4.10.0-193.el8.x86_64 #1
[ 2081.776901] [ 1620] 1000 1620 361763 212152 2523136 94047 0 neumen.b
[ 2081.777375] [ 1632] 1000 1632 358133 210198 2498560 92367 0 neumen.b
[ 2081.777791] Out of memory: Killed process 1620 (neumen.bash) total-vn:1447852kB, anon-rss:
B, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 2081.869838] oom_reaper: reaped process 1620 (neumen.bash), now anon-rss:0kB, file-rss:0kB,
rss:0kB
[ 2113.339796] [ 1632] 1000 1632 663614 421718 4947968 186339 0 neumen.b
[ 2113.340416] Out of memory: Killed process 1632 (neumen.bash) total-vn:2654456kB, anon-rss:
kB, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 2113.502552] oom_reaper: reaped process 1632 (neumen.bash), now anon-rss:0kB, file-rss:0kB,
rss:0kB
[ 2803.137908] [ 1678] 1000 1678 664142 421212 4956160 187361 0 ncn.bash
[ 2803.138387] Out of memory: Killed process 1678 (ncn.bash) total-vn:2656568kB, anon-rss:168
, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 2803.225722] oom_reaper: reaped process 1678 (ncn.bash), now anon-rss:0kB, file-rss:0kB, sh
:0kB
[ 3427.797476] [ 1694] 1000 1694 362357 212187 2535424 94688 0 ncn.bash
[ 3427.797899] [ 1695] 1000 1695 357927 209552 2494464 92024 0 ncn2.bas
[ 3427.798348] Out of memory: Killed process 1694 (ncn.bash) total-vn:1449428kB, anon-rss:848
file-rss:0kB, shmem-rss:0kB, UID:1000
[ 3427.880781] oom_reaper: reaped process 1694 (ncn.bash), now anon-rss:0kB, file-rss:0kB, sh
:0kB
[ 3461.485692] [ 1695] 1000 1695 664464 422236 4952064 186676 0 ncn2.bas
[ 3461.486382] Out of memory: Killed process 1695 (ncn2.bash) total-vn:2657856kB, anon-rss:16
, file-rss:0kB, shmem-rss:0kB, UID:1000
[ 3461.659136] oom_reaper: reaped process 1695 (ncn2.bash), now anon-rss:0kB, file-rss:0kB, s
s:0kB
[user@localhost lab5]$ _

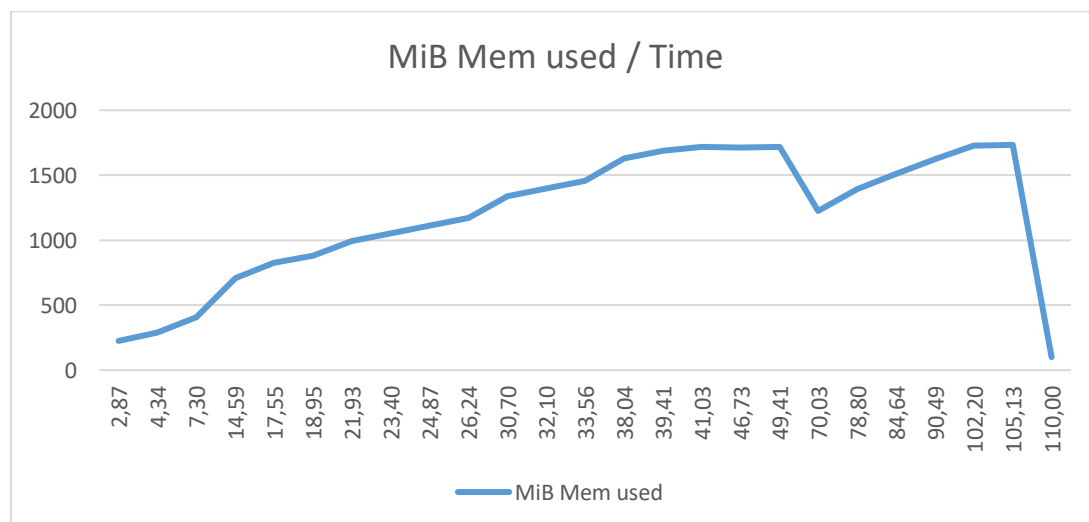
```

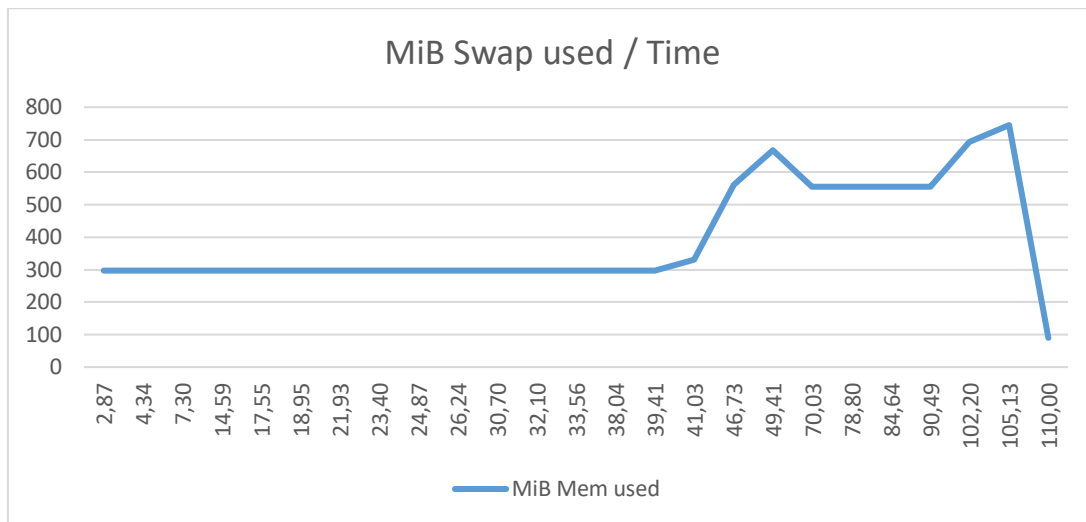
## Report

```

[user@localhost lab5]$ cat report.log | tail -n 1
31000000
[user@localhost lab5]$ cat report2.log | tail -n 1
15000000
[user@localhost lab5]$

```





Сначала выполнения программы процесс занимает только физическую память, а когда она заканчивается место в физ памяти, то начинается использоваться раздел подкачки, а когда заканчивается свободное место в разделе подкачки происходит аварийное завершение программы.

Во втором этапе, как только заканчивается свободное пространство в MiB Swap, происходит аварийное завершение одного из процессов. Освободившееся от этого место занимает оставшимся процессом, который также аварийно завершается, когда свободная память заканчивается.

## Эксперимент 2

```
top - 19:22:33 up 3:45, 2 users, load average: 1.85, 1.50, 2.69
Tasks: 117 total, 11 running, 98 sleeping, 8 stopped, 0 zombie
%Cpu(s): 96.0 us, 2.0 sy, 0.0 ni, 0.0 id, 0.0 wa, 2.0 hi, 0.0 si, 0.0 st
MiB Mem : 1827.1 total, 877.4 free, 863.3 used, 86.3 buff/cache
MiB Swap: 820.0 total, 670.6 free, 149.4 used, 846.8 avail Mem

[13377.215273] [ 852] 0 852 77886 0 180224 172 0 gssproxy
65190 user 20 0 304988 85548 2916 R 10.3 4.6 0:01.53 newmem.bash
65200 user 20 0 255092 35660 2924 R 10.3 1.9 0:00.60 newmem.bash
65184 user 20 0 405704 186152 2924 R 10.0 9.9 0:03.38 newmem.bash
65188 user 20 0 324392 105260 3104 R 10.0 5.6 0:01.86 newmem.bash
65192 user 20 0 291260 71884 2984 R 10.0 3.8 0:01.27 newmem.bash
65196 user 20 0 269612 50148 2884 R 10.0 2.7 0:00.88 newmem.bash
65198 user 20 0 260240 40608 2844 R 10.0 2.2 0:00.73 newmem.bash
65186 user 20 0 351188 131872 3040 R 9.6 7.0 0:02.35 newmem.bash
65194 user 20 0 278984 59468 2972 R 9.6 3.2 0:01.05 newmem.bash
65202 user 20 0 247568 28104 3024 R 9.6 1.5 0:00.47 newmem.bash
1 root 20 0 179200 5592 3788 S 0.0 0.3 0:02.77 systemd
```

При значении N в 10 раз меньше, чем критическое и при K = 10 ни один из процессов не завершился аварийно

При значении N в 10 раз меньше, чем критическое и при K = 30

```
13589.927507] newmem.bash invoked oom-killer: gfp_mask=0x6280ca(GFP_HIGHUSER_MOVABLE|_GFP_ZERO), n
odenask=(null), order=0, oom_score_adj=0
13589.928270] newmem.bash cpuset=/ mems_allowed=0
13589.928656] CPU: 0 PID: 2924 Comm: newmem.bash Kdump: loaded Tainted: G
- - 4.18.0-193.el8.x86_64 #1
13589.977216] [ 2920] 0 2920 114362 37357 544768 21500 0 newmem.bash
13589.977551] [ 2922] 0 2922 112580 34861 532480 22256 0 newmem.bash
13589.977867] [ 2924] 0 2924 112250 36276 528384 20528 0 newmem.bash
13589.978225] [ 2926] 0 2926 104198 32567 471040 16164 0 newmem.bash
13589.978816] [ 2928] 0 2928 108752 37054 503808 16115 0 newmem.bash
13589.979203] [ 2930] 0 2930 107762 36162 491520 16139 0 newmem.bash
13589.979515] [ 2932] 0 2932 105551 35540 483328 14444 0 newmem.bash
13589.979807] [ 2934] 0 2934 103736 34890 462848 13249 0 newmem.bash
13589.980145] [ 2936] 0 2936 102944 35314 466944 12156 0 newmem.bash
13589.980527] [ 2938] 0 2938 101393 32898 442368 13001 0 newmem.bash
13589.980869] [ 2940] 0 2940 103439 36186 458752 11780 0 newmem.bash
13589.981236] [ 2942] 0 2942 98555 33045 417792 9904 0 newmem.bash
13589.981591] Out of memory: Killed process 2920 (newmem.bash) total-vn:457448kB, anon-rss:148940kB
, file-rss:488kB, shmem-rss:0kB, UID:0
13590.014759] oom_reaper: reaped process 2920 (newmem.bash), now anon-rss:0kB, file-rss:0kB, shmem-
rss:0kB
```

Из-за большого количества запусков newmem.bash происходит заполнение памяти быстрее чем освобождается из-за того, что они бы завершались сами

При снижении N до ~1030000 и K = 30 не происходит аварийного завершения программ. При увеличении значения часть программ начинает завершаться аварийно