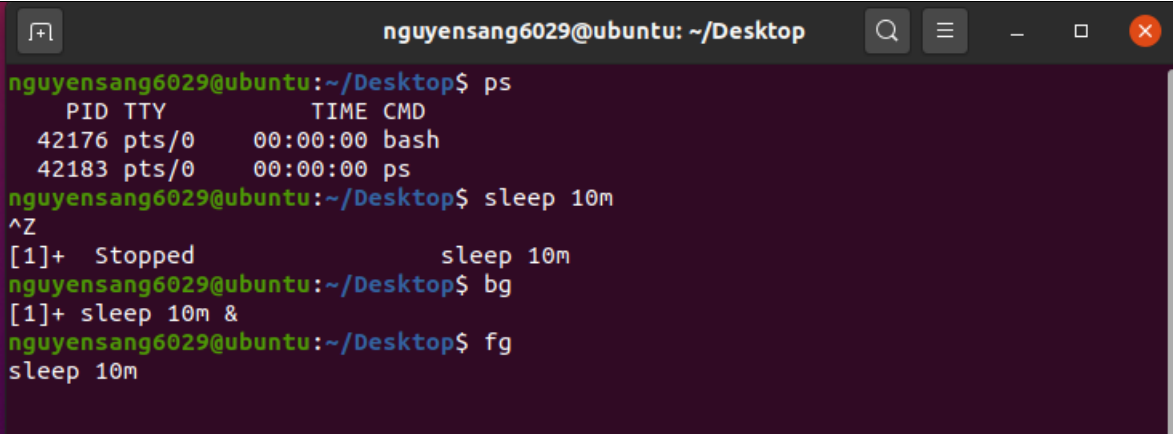
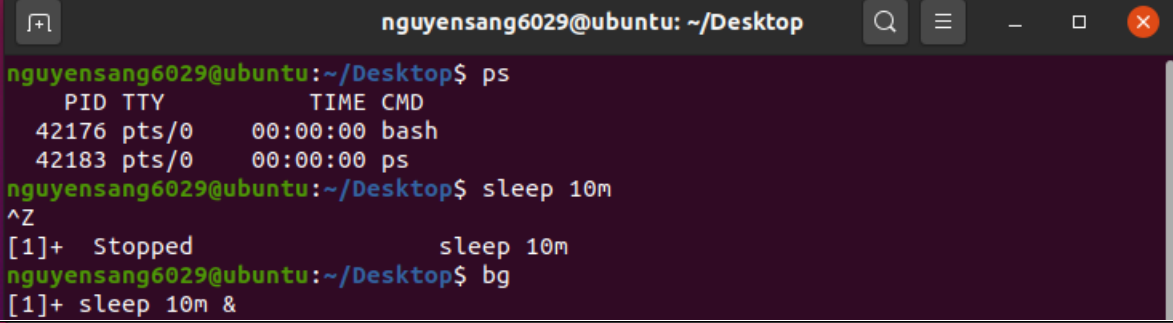
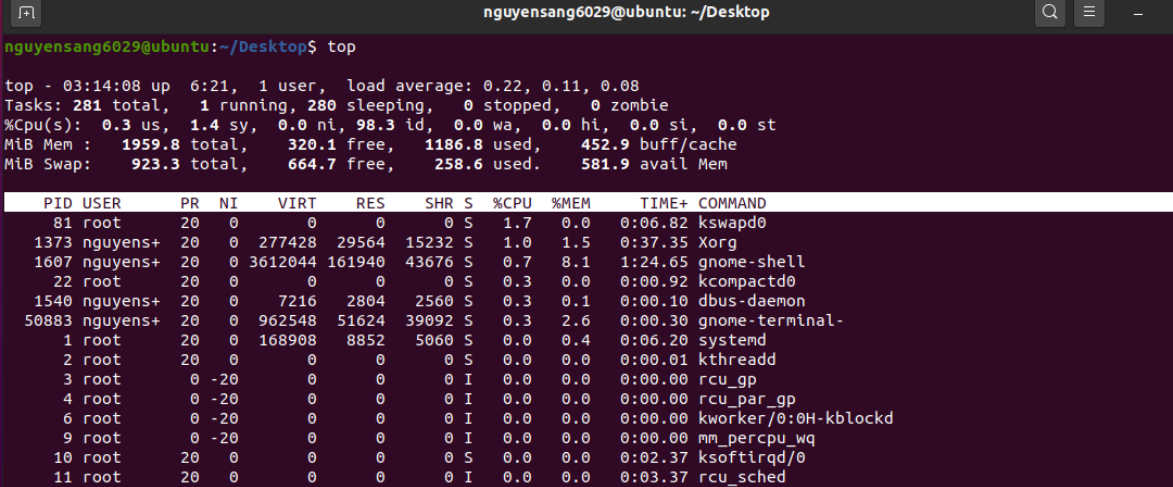
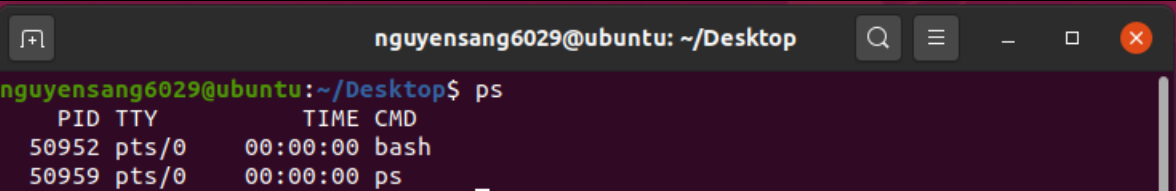
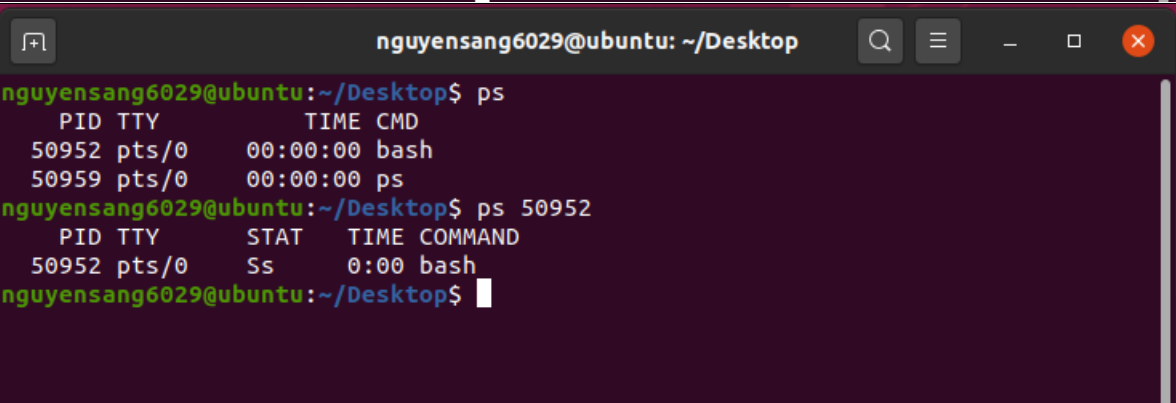
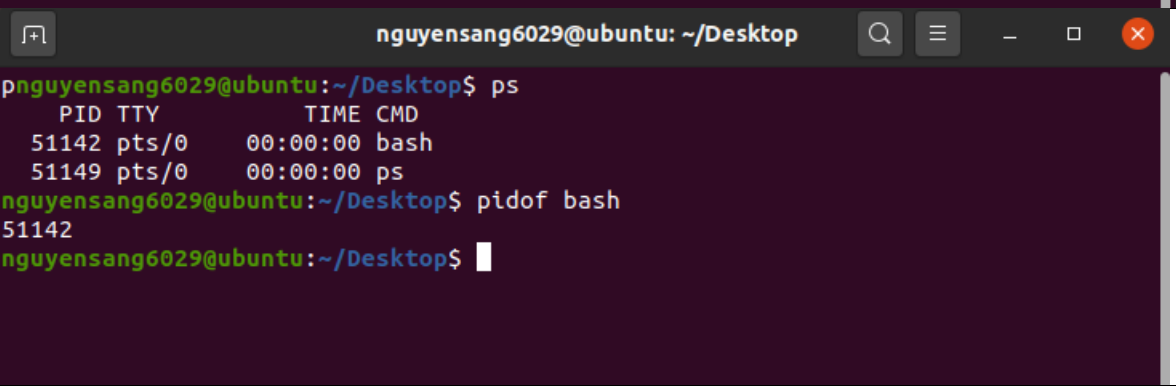


Họ và tên: Nguyễn Sang

MSSV: 18126029

Bài 1:

LỆNH	MIÊU TẢ	ẢNH MINH HỌA
bg	hiện các công việc đã kết thúc hoặc đang chạy nền; tiếp tục một công việc đã tạm ngừng	 <p>The screenshot shows a terminal window titled 'nguyensang6029@ubuntu: ~/Desktop'. The user enters 'ps' and sees two processes: 'bash' (PID 42176) and 'ps' (PID 42183). Then, they enter 'sleep 10m', which is shown as '^Z' and '[1]+ Stopped sleep 10m'. Finally, they enter 'bg', which resumes the process as '[1]+ sleep 10m &'. The prompt then changes to 'nguyensang6029@ubuntu: ~/Desktop\$'.</p>
fg	ngừng chạy nền (chuyển sang foreground) với công việc gần đây nhất	 <p>The screenshot shows the same terminal window. The user enters 'ps' and sees the same two processes. Then, they enter 'sleep 10m', which is shown as '^Z' and '[1]+ Stopped sleep 10m'. Finally, they enter 'fg', which brings the process to the foreground as '[1]+ sleep 10m &'. The prompt then changes to 'nguyensang6029@ubuntu: ~/Desktop\$'.</p>
top	hiện tất cả các tiến trình đang hoạt động	 <p>The screenshot shows the 'top' command output in a terminal window. The output displays system statistics and a list of running processes. The processes listed include 'kswapd0', 'Xorg', 'gnome-shell', 'kcompactd0', 'dbus-daemon', 'gnome-terminal-', 'systemd', 'kthreadd', 'rcu_gp', 'rcu_par_gp', 'kworker/0:0H-kblockd', 'mm_percpu_wq', 'ksoftirqd/0', and 'rcu_sched'.</p>

ps	hiện những tiến trình đang hoạt động tích cực	
ps PID	hiển thị tất cả processes dựa trên process ID (pid).	
pidof	hiển thị ID của một chương trình đang chạy	

kill PID	ép thoát tiến trình có mã pid	<div><div>nguyensang6029@ubuntu: ~/Desktop</div><div><pre>nguyens+ 1712 0.0 0.1 231792 2768 ? Sl Oct15 0:00 /usr/libexec/ nguyens+ 1717 0.0 0.2 468952 5928 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1718 0.0 0.1 317932 2872 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1728 0.0 0.2 321664 4932 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1731 0.0 0.2 387868 4544 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1736 0.0 0.3 347848 7444 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1737 0.0 0.2 318228 4516 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1746 0.0 0.4 348960 9708 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1755 0.1 1.9 314544 38820 ? Sl Oct15 0:32 /usr/bin/vmto nguyens+ 1763 0.0 0.3 342168 6140 ? Sl Oct15 0:00 /usr/libexec/ nguyens+ 1799 0.0 0.3 681624 6484 ? Ssl Oct15 0:00 /usr/libexec/ nguyens+ 1997 0.0 0.9 423656 19800 ? Sl Oct15 0:01 update-notifi nguyens+ 39621 0.0 0.3 465316 6876 ? Sl Oct15 0:00 /usr/libexec/ nguyens+ 39641 0.0 0.3 314964 6508 ? Sl Oct15 0:00 /usr/libexec/ nguyens+ 51219 3.3 2.5 962324 51844 ? Ssl 03:26 0:00 /usr/libexec/ nguyens+ 51230 0.0 0.2 10608 4688 pts/0 Ss 03:26 0:00 bash nguyens+ 51237 0.0 0.1 11476 3332 pts/0 R+ 03:26 0:00 ps ux nguyensang6029@ubuntu:~/Desktop\$ ps PID TTY TIME CMD 51230 pts/0 00:00:00 bash 51238 pts/0 00:00:00 ps nguyensang6029@ubuntu:~/Desktop\$ kill 51238 bash: kill: (51238) - No such process nguyensang6029@ubuntu:~/Desktop\$</pre></div></div>
nice	thực hiện một chương trình với một ưu tiên lập lịch tùy chỉnh . Giá trị dao động từ -20 (mức ưu tiên cao nhất) đến 19 (mức thấp nhất).	<div><div>nguyensang6029@ubuntu: ~/Desktop</div><div><pre>18 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kauditd nguyensang6029@ubuntu:~/Desktop\$ nice -n 0 systemd pulseaudio.service: Main process exited, code=exited, status=1/FAILURE pulseaudio.service: Failed with result 'exit-code'. pulseaudio.service: Scheduled restart job, restart counter is at 1. pulseaudio.service: Main process exited, code=exited, status=1/FAILURE pulseaudio.service: Failed with result 'exit-code'. pulseaudio.service: Scheduled restart job, restart counter is at 2. pulseaudio.service: Main process exited, code=exited, status=1/FAILURE pulseaudio.service: Failed with result 'exit-code'. Startup finished in 597ms. pulseaudio.service: Scheduled restart job, restart counter is at 3. pulseaudio.service: Main process exited, code=exited, status=1/FAILURE pulseaudio.service: Failed with result 'exit-code'. pulseaudio.service: Scheduled restart job, restart counter is at 4. pulseaudio.service: Main process exited, code=exited, status=1/FAILURE pulseaudio.service: Failed with result 'exit-code'. pulseaudio.service: Scheduled restart job, restart counter is at 5. pulseaudio.service: Start request repeated too quickly. pulseaudio.service: Failed with result 'exit-code'. pulseaudio.socket: Failed with result 'service-start-limit-hit'. tracker-extract.service: Succeeded. tracker-extract.service: Succeeded.</pre></div></div>

renice thay đổi mức độ ưu tiên của một hoặc nhiều tiến trình đang chạy. Giá trị độ bền dao động từ -20 (thuận lợi nhất cho tiến trình) đến 19 (ít thuận lợi nhất cho tiến trình).

```
nguyensang6029@ubuntu: ~/Desktop
MiB Mem : 1959.8 total, 520.7 free, 834.7 used, 604.5 buff/cache
MiB Swap: 923.3 total, 687.7 free, 235.6 used. 957.8 avail Mem

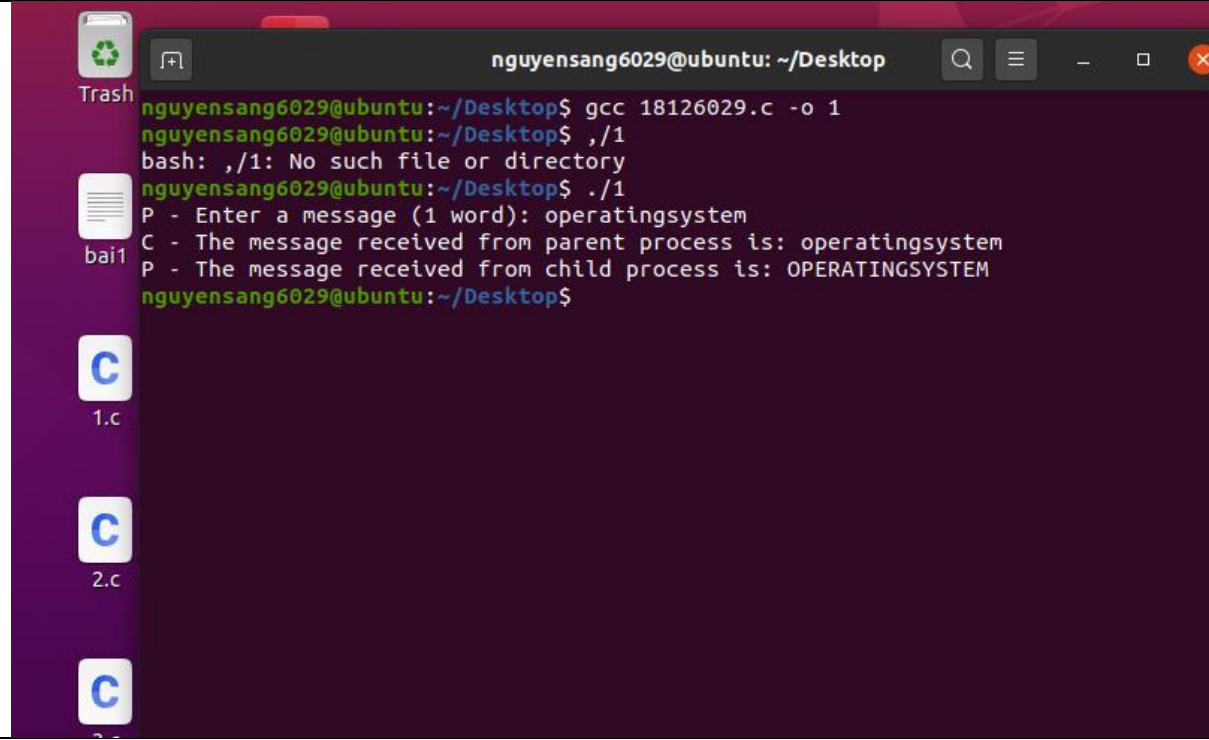
  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 1607 nguyens+ 20   0 3622268 179276 52928 S   1.0   8.9   1:44.49 gnome-s+
 1373 nguyens+ 20   0 263260 21996 7408 S   0.7   1.1   0:46.38 Xorg
 51887 nguyens+ 20   0 626456 52000 39328 S   0.7   2.6   0:00.22 gnome-t+
 1696 nguyens+ 20   0 348888 10608 8336 S   0.3   0.5   0:00.40 gsd-pow+
 51903 nguyens+ 20   0 11968 4040 3272 R   0.3   0.2   0:00.01 top
    1 root      20   0 168908 9096 5320 S   0.0   0.5   0:06.48 systemd
    2 root      20   0      0      0      0 S   0.0   0.0   0:00.01 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+
    6 root       0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    9 root       0 -20      0      0      0 I   0.0   0.0   0:00.00 mm_perc+
   10 root      20   0      0      0      0 S   0.0   0.0   0:02.43 ksoftir+
   11 root      20   0      0      0      0 I   0.0   0.0   0:03.60 rcu_sch+
   12 root      rt    0      0      0      0 S   0.0   0.0   0:00.21 migrati+
   13 root     -51   0      0      0      0 S   0.0   0.0   0:00.00 idle_in+
   14 root      20   0      0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
   15 root      20   0      0      0      0 S   0.0   0.0   0:00.00 kdevtmp+

nguyensang6029@ubuntu:~/Desktop$ renice -n 15 -p 51887
51887 (process ID) old priority 0, new priority 15
nguyensang6029@ubuntu:~/Desktop$
```

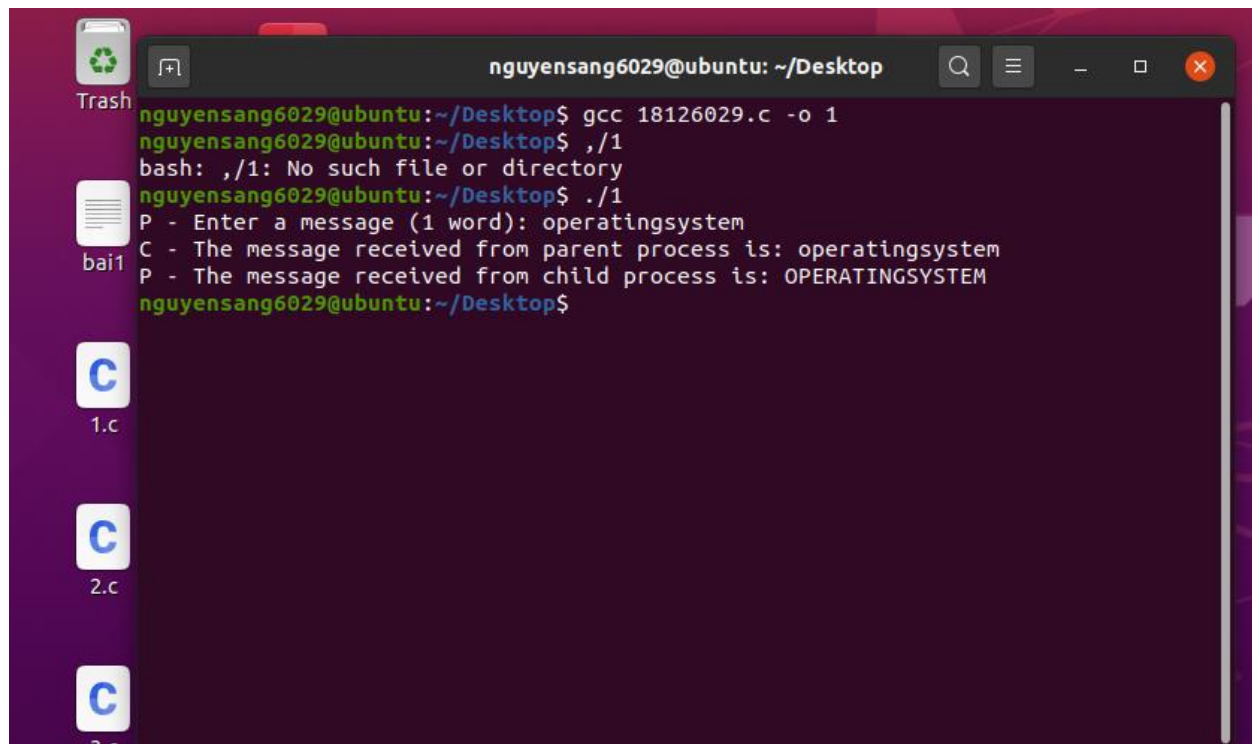
df hiện mức sử dụng đĩa

```
nguyensang6029@ubuntu: ~/Desktop
nguyensang6029@ubuntu:~/Desktop$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev              975276         0    975276   0% /dev
tmpfs             200692     1664    199028   1% /run
/dev/sda5        19992176 7799160 11154424  42% /
tmpfs            1003440         0    1003440   0% /dev/shm
tmpfs              5120          4        516   1% /run/lock
tmpfs            1003440         0    1003440   0% /sys/fs/cgroup
/dev/loop0         56320     56320         0 100% /snap/core18/1880
/dev/loop1         56704     56704         0 100% /snap/core18/1885
/dev/loop2        261760    261760         0 100% /snap/gnome-3-34-1804/36
/dev/loop3        223232    223232         0 100% /snap/gnome-3-34-1804/60
/dev/loop4         63616     63616         0 100% /snap/gtk-common-themes/1506
/dev/loop5         51072     51072         0 100% /snap/snap-store/467
/dev/loop6         30720     30720         0 100% /snap/snapd/8542
/dev/loop7         51968     51968         0 100% /snap/snap-store/481
/dev/sda1          523248          4    523244   1% /boot/efi
tmpfs             200688          4    200640   1% /run/user/1000
/dev/loop8         31744     31744         0 100% /snap/snapd/9607

nguyensang6029@ubuntu:~/Desktop$
```

free	hiện dung lượng bộ nhớ trống và lượng bộ nhớ trao đổi (swap) đã dùng	 <pre>nguyensang6029@ubuntu: ~/Desktop nguyensang6029@ubuntu:~/Desktop\$ gcc 18126029.c -o 1 nguyensang6029@ubuntu:~/Desktop\$./1 bash: ./1: No such file or directory nguyensang6029@ubuntu:~/Desktop\$./1 P - Enter a message (1 word): operatingsystem C - The message received from parent process is: operatingsystem P - The message received from child process is: OPERATINGSYSTEM nguyensang6029@ubuntu:~/Desktop\$</pre>
------	--	--

Bài 2:



The image shows a terminal window titled "nguyensang6029@ubuntu: ~/Desktop". The terminal output is as follows:

```
nguyensang6029@ubuntu:~/Desktop$ gcc 18126029.c -o 1
nguyensang6029@ubuntu:~/Desktop$ ./1
bash: ./1: No such file or directory
nguyensang6029@ubuntu:~/Desktop$ ./1
P - Enter a message (1 word): operatingsystem
C - The message received from parent process is: operatingsystem
P - The message received from child process is: OPERATINGSYSTEM
nguyensang6029@ubuntu:~/Desktop$
```

On the left side of the terminal window, there is a vertical dock with icons for "Trash", "bai1", and three files named "1.c", "2.c", and "3.c". Each file icon is a blue square with a white 'C'.