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CS340 HW#2

Welcome to Computer Science !

**[wury5340@venus ~]$ cd /**

**[wury5340@venus /]$ ls -l**

total 176

drwxr-xr-x 2 root root 4096 Jul 8 04:04 bin

drwxr-xr-x 4 root root 4096 Jun 6 00:12 boot

drwxr-xr-x 13 root root 3800 Jun 6 12:52 dev

drwxr-xr-x 108 root root 12288 Jul 16 04:02 etc

drwxr-xr-x 29 root root 4096 Jun 30 22:40 home

drwxr-xr-x 9 root root 4096 Jul 8 04:03 lib

drwxr-xr-x 8 root root 12288 Jul 8 04:03 lib64

**[wury5340@venus /]$ cd /bin**

**[wury5340@venus bin]$ ls -l**

total 8892

-rwxr-xr-x 1 root root 8992 Jan 21 2009 alsacard

-rwxr-xr-x 1 root root 21248 Jan 21 2009 alsaunmute

-rwxr-xr-x 1 root root 7440 Mar 10 08:32 arch

lrwxrwxrwx 1 root root 4 Aug 5 2010 awk -> gawk

-rwxr-xr-x 1 root root 20984 Mar 30 13:12 basename

-rwxr-xr-x 1 root root 801512 Jan 21 2009 bash

-rwxr-xr-x 1 root root 25216 Mar 30 13:12 cat

-rwxr-xr-x 1 root root 42944 Mar 30 13:12 chgrp

**List 6 Commands you recognize :**

**Tar,pwd,mv,more,mkdir,ps,ls,kill,vi,cat,grep,less,echo, much more.**

**[wury5340@venus bin]$ cd /dev**

**[wury5340@venus dev]$ ls -l**

total 0

crw-rw---- 1 root audio 14, 12 Jun 6 12:51 adsp

crw------- 1 root root 10, 175 Jun 6 12:51 agpgart

crw-rw---- 1 root audio 14, 4 Jun 6 12:51 audio

crw------- 1 root root 10, 62 Jun 6 12:51 autofs

drwxr-xr-x 3 root root 60 Jun 6 12:51 bus

crw------- 1 root root 5, 1 Jul 8 04:04 console

lrwxrwxrwx 1 root root 11 Jun 6 12:51 core -> /proc/kcore

**Any devices you recognize?**

**Bus, disk, ram, usbdev.**

**[wury5340@venus dev]$ cd /etc**

**[wury5340@venus etc]$ ls -l**

total 3988

-rw-r--r-- 1 root root 15288 May 24 2008 a2ps.cfg

-rw-r--r-- 1 root root 2562 May 24 2008 a2ps-site.cfg

drwxr-xr-x 4 root root 4096 Aug 5 2010 acpi

-rw-r--r-- 1 root root 44 Jun 6 12:50 adjtime

drwxr-xr-x 4 root root 4096 Aug 5 2010 alchemist

-rw-r--r-- 1 root root 1512 Apr 25 2005 aliases

-rw-r----- 1 root smmsp 12288 Jun 6 12:51 aliases.db

**Mention a few files you have heard about.**

**Environment, filesystems, java, passwd, sysconfig, ssh.**

**What is the most used permission?**

**Drwx (delete,read,write,execute)**

**[wury5340@venus etc]$ cat profile**

# /etc/profile

# System wide environment and startup programs, for login setup

# Functions and aliases go in /etc/bashrc

pathmunge () {

if ! echo $PATH | /bin/egrep -q "(^|:)$1($|:)" ; then

if [ "$2" = "after" ] ; then

PATH=$PATH:$1

else

PATH=$1:$PATH

fi

fi

}

**[wury5340@venus etc]$ cat login.defs**

# \*REQUIRED\*

# Directory where mailboxes reside, \_or\_ name of file, relative to the

# home directory. If you \_do\_ define both, MAIL\_DIR takes precedence.

# QMAIL\_DIR is for Qmail

#

#QMAIL\_DIR Maildir

MAIL\_DIR /var/spool/mail

#MAIL\_FILE .mail

# Password aging controls:

#

# PASS\_MAX\_DAYS Maximum number of days a password may be used.

# PASS\_MIN\_DAYS Minimum number of days allowed between password changes.

# PASS\_MIN\_LEN Minimum acceptable password length.

# PASS\_WARN\_AGE Number of days warning given before a password expires.

#

PASS\_MAX\_DAYS 99999

**[wury5340@venus etc]$ cat passwd | grep wury**

wury0167:x:1906:800:RYAN WU:/home/sp10/212/wury0167:/bin/bash

wury5340:x:3583:800:Ryan Wu:/home/su11/340/wury5340:/bin/bash

**[wury5340@venus etc]$ cd /lib**

**[wury5340@venus lib]$ ls**

cpp libdl.so.2 libnss\_nisplus.so.2

firmware libgcc\_s-4.1.2-20080825.so.1 libnss\_nis.so.2

i686 libgcc\_s.so.1 libpthread-2.5.so

kbd libm-2.5.so libpthread.so.0

ld-2.5.so libm.so.6 libresolv-2.5.so

ld-linux.so.2 libnsl-2.5.so libresolv.so.2

[wury5340@venus lib]$ cd /tmp

[wury5340@venus tmp]$ ls

hsperfdata\_akma4550 sess\_6st62c4ra19gqpvgr8ou6bulb0

hsperfdata\_baja9699 sess\_79685ores7hhl321o84v7rv7i3

hsperfdata\_baso5647 sess\_7a3rbhqtok4s85ndtpmo78cgf3

hsperfdata\_blwa1151 sess\_7cviocj88c4gbati8pueqhle22

hsperfdata\_caau2712 sess\_7q2bsrmrutfpqubf59bsdn0ra0

hsperfdata\_chke2640 sess\_8lr4i8vg287s1nmf06acbcujd5

hsperfdata\_chra1458 sess\_b4fo3e9ffq4srr0brisf53br46

**[wury5340@venus tmp]$ less /etc/passwd**

root:x:0:0:root:/root:/bin/bash

bin:x:1:1:bin:/bin:/sbin/nologin

daemon:x:2:2:daemon:/sbin:/sbin/nologin

adm:x:3:4:adm:/var/adm:/sbin/nologin

lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin

sync:x:5:0:sync:/sbin:/bin/sync

shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown

halt:x:7:0:halt:/sbin:/sbin/halt

mail:x:8:12:mail:/var/spool/mail:/sbin/nologin

news:x:9:13:news:/etc/news:

uucp:x:10:14:uucp:/var/spool/uucp:/sbin/nologin

operator:x:11:0:operator:/root:/sbin/nologin

**[wury5340@venus tmp]$ echo $HOME**

/home/su11/340/wury5340

**[wury5340@venus tmp]$ pwd**

/tmp

**[wury5340@venus tmp]$ echo $SHELL**

/bin/bash

**[wury5340@venus tmp]$ chsh**

Changing shell for wury5340.

Password:

**New shell [/bin/bash]: /bin/tcsh**

Shell changed.

**[wury5340@venus tmp]$ echo $SHELL**

/bin/bash

**[wury5340@venus tmp]$ ps**

PID TTY TIME CMD

27624 pts/1 00:00:00 bash

27963 pts/1 00:00:00 ps

**What do I observe?**

**I observe that the Process Ids, and the time is 00:00:00.**

**[wury5340@venus tmp]$ set | more**

BASH=/bin/bash

BASH\_ARGC=()

BASH\_ARGV=()

BASH\_LINENO=()

BASH\_SOURCE=()

BASH\_VERSINFO=([0]="3" [1]="2" [2]="25" [3]="1" [4]="release" [5]="x86\_64-redhat

-linux-gnu")

**What is observedon your screen? These are the settings for the bash shell.**

**[wury5340@venus tmp]$ set | more | grep CDPATH**

**[wury5340@venus tmp]$ set | more | grep cdpath**

**[wury5340@venus tmp]$ set | more | grep ENV**

**[wury5340@venus tmp]$ set | more | grep PS1**

PS1='[\u@\h \W]\$ '

**[wury5340@venus tmp]$ set | more | grep PWD**

OLDPWD=/lib

PWD=/tmp

**[wury5340@venus tmp]$ set | more | grep HOME**

HOME=/home/su11/340/wury5340

**[wury5340@venus tmp]$ set | more | grep TERM**

TERM=vt100

**[wury5340@venus tmp]$ set | more | grep home**

HISTFILE=/home/su11/340/wury5340/.bash\_history

HOME=/home/su11/340/wury5340

PATH=/usr/kerberos/bin:/usr/local/bin:/bin:/usr/bin:/home/su11/340/wury5340/bin

mpi\_selector\_homefile=/home/su11/340/wury5340/.mpi-selector

**[wury5340@venus tmp]$ set | more | grep cwd**

**[wury5340@venus tmp]$ set | more | grep prompt**

**[wury5340@venus tmp]$ man setenv**

SETENV(3) Linux Programmerâs Manual SETENV(3)

NAME

setenv - change or add an environment variable

SYNOPSIS

#include <stdlib.h>

int setenv(const char \*name, const char \*value, int overwrite);

[wury5340@venus /tmp]$ setenv | more

HOSTNAME=venus

TERM=vt100

SHELL=/bin/bash

HISTSIZE=1000

SSH\_CLIENT=207.237.50.152 49852 22

SSH\_TTY=/dev/pts/1

USER=wury5340

LS\_COLORS=no=00:fi=00:di=01;34:ln=01;36:pi=40;33:so=01;35:bd=40;33;01:cd=40;33;0

1:or=01;05;37;41:mi=01;05;37;41:ex=01;32:\*.cmd=01;32:\*.exe=01;32:\*.com=01;32:\*.b

tm=01;32:\*.bat=01;32:\*.sh=01;32:\*.csh=01;32:\*.tar=01;31:\*.tgz=01;31:\*.arj=01;31:

\*.taz=01;31:\*.lzh=01;31:\*.zip=01;31:\*.z=01;31:\*.Z=01;31:\*.gz=01;31:\*.bz2=01;31:\*

.bz=01;31:\*.tz=01;31:\*.rpm=01;31:\*.cpio=01;31:\*.jpg=01;35:\*.gif=01;35:\*.bmp=01;3

5:\*.xbm=01;35:\*.xpm=01;35:\*.png=01;35:\*.tif=01;35:

MAIL=/var/spool/mail/wury5340

PATH=/usr/kerberos/bin:/usr/local/bin:/bin:/usr/bin:/home/su11/340/wury5340/bin

INPUTRC=/etc/inputrc

PWD=/tmp

LANG=en\_US.UTF-8

SSH\_ASKPASS=/usr/libexec/openssh/gnome-ssh-askpass

SHLVL=2

HOME=/home/su11/340/wury5340

LOGNAME=wury5340

CVS\_RSH=ssh

SSH\_CONNECTION=207.237.50.152 49852 149.4.211.180 22

LESSOPEN=|/usr/bin/lesspipe.sh %s

G\_BROKEN\_FILENAMES=1

\_=/bin/csh

OLDPWD=/lib

HOSTTYPE=x86\_64-linux

VENDOR=unknown

OSTYPE=linux

MACHTYPE=x86\_64

GROUP=underg

HOST=venus

REMOTEHOST=207-237-50-152.c3-0.elm-ubr1.qens-elm.ny.cable.rcn.com

**[wury5340@venus ~]$ ps -l**

F S UID PID PPID C PRI NI ADDR SZ WCHAN TTY TIME CMD

0 S 3583 26405 26404 0 75 0 - 17744 rt\_sig pts/11 00:00:00 tcsh

0 R 3583 26502 26405 0 76 0 - 15885 - pts/11 00:00:00 ps

F – Flags

S – Process Status Code

UID – User ID

PID – Process ID

PPID – Parent Process ID

C – CPU Usage and scheduling Information

PRI – Priority

NI – Nice Value

ADDR – Address of process in main memory

SZ – Virtual Memory Usage

WCHAN – Address of the event process is waiting for

TTY – Terminal associated with process

TIME – Total CPU Usage

CMD – Name of Process

**[wury5340@venus ~]$ echo $SHELL**

/bin/tcsh

**[wury5340@venus ~]$**

**[wury5340@venus ~]$ top**

top - 14:28:35 up 42 days, 1:38, 23 users, load average: 0.00, 0.00, 0.00

Tasks: 250 total, 1 running, 249 sleeping, 0 stopped, 0 zombie

Cpu(s): 0.3%us, 0.1%sy, 0.1%ni, 99.4%id, 0.1%wa, 0.0%hi, 0.0%si, 0.0%st

Mem: 3967212k total, 3592040k used, 375172k free, 200008k buffers

Swap: 4104596k total, 187480k used, 3917116k free, 2685876k cached

The Parent class initiates a fork to start the child process. The parent waits for the child process to finish executing. The child terminates(kills) execution and relays the child process id or exit code to the parent. The child process is now a ZOMBIE. The parent now detects the termination of the child process. The parent also terminates after the child terminates

The parent initiates a fork to start the orphan process. The parent displays the PID and PPID and the child PID. The parent terminates (kills) and the child process is taken over by another process. The PPID of the orphan is now 1 instead of 27196. The child terminates afterwards.