```
>> Welcome to the Linux VM for Operating System Concepts!
  *** Message of the Day ****
   Have a wonderful day =)
 ********
 home/aardon> script output.txt
           --Program Started--
Script started, file is output.txt
***** Message of the Day ****
   Have a wonderful day =)
 /home/aardon> ls
     -----Program Started-----
output.txt
            --Program Ended---
 /home/aardon> ls -Al
           --Program Started-----
total 20
-rw-r---- 1 aardon aardon 220 Aug 31 2015 .bash_logout

-rw-r---- 1 aardon aardon 3771 Aug 31 2015 .bashrc

drwx----- 2 aardon aardon 4096 Oct 23 08:40 .cache

drwxrwxr-x 2 aardon aardon 4096 Oct 23 08:49 .nano

-rw-rw-r-- 1 aardon aardon 0 Oct 23 10:18 output.txt
 rw-r--r-- 1 aardon aardon 655 May 16 2017 .profile
             --Program Ended---
 home/aardon> _
                                                File: output.txt
GNU nano 2.5.3
-rw-r--r- 1 aardon aardon 3771 Aug 31 2015 .bashrc
drwx----- 2 aardon aardon 4096 Oct 23 08:40 .cache
drwxrwxr-x 2 aardon aardon 4096 Oct 23 08:49 .nano
-rw-rw-r-- 1 aardon aardon 0 Oct 23 10:18 output.txt
 -rw-r--r-- 1 aardon aardon 0 Oct 23 10:18 output.t>
-rw-r--r-- 1 aardon aardon 655 May 16 2017 .profile
`[[37m^[[32m
      -----Program Ended-
^[[37m^[[34m/home/aardon> ^[[37mcat /home/osc/dinoBash/dinoBash.c
 [[32m
             -Program Started---
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <string.h>
#include <curses.h>
// Prints the message of the day
void motd()
          printf("\x1b[36m" "\n***** Message of the Day ****\n");
printf(" Have a wonderful day =)\n");
printf("***************\n\n" "\x1b[37m");
// Prints the current directory
void currentDir()
           char cwd[1024];
           getcwd(cwd, sizeof(cwd));
           printf("\x1b[34m");
           printf("%s> ", cwd);
                                     *W Where Is
```

TR Cut Text To Justify
Uncut Text To Spell

C Cur Pos
Go To L

Go To Line 'V Next Page

^O Write Out ^R Read File

G Get Help Exit

```
GNU nano 2.5.3
                                              File: output.txt
// Prints the message of the day
void motd()
          printf("\x1b[36m" "\n***** Message of the Day *****\n");
printf(" Have a wonderful day =)\n");
printf("**********************\n\n" "\x1b[37m");
// Prints the current directory
void currentDir()
          char cwd[1024];
          getcwd(cwd, sizeof(cwd));
printf("x1b[34m");
printf("xs> ", cwd);
printf("xx1b[37m");
// Parse the input string from user
void parseString(char* input, char** parsed)
          int i;
          for(i = 0; i < 100; i++)
                    parsed[i] = strsep(&input, " ");
                     if(parsed[i] == NULL)
                              hreak:
                    if(strlen(parsed[i]) == 0)
                                   ~W Where Is

↑ Replace
                  ^O Write Out
^R Read File
                                                      TR Cut Text
To Spell
To Spell
                                                                                          C Cur Pos
G Get Help
                                                                                                            Y Prev Page
^X Exit
                                                                                             Go To Line V Next Page
 GNU nano 2.5.3
                                              File: output.txt
// Parse the input string from user
void parseString(char* input, char** parsed)
          int i;
          for(i = 0; i < 100; i++)
                    parsed[i] = strsep(&input, " ");
                    if(parsed[i] == NULL)
                              break;
                    if(strlen(parsed[i]) == 0)
// Determine how the user command is handled
int cmdHandling(char** parsed)
          int cmdNum = 2, cmdSwitch = 0;
char* cmds[cmdNum];
          cmds[0] = "exit";
cmds[1] = "cd";
^G Get Help
^X Exit
                                                                                          Cur Pos
                                                      Y Prev Page
                  🔟 Write Out
                                    ~W Where Is
```

R Read File

Replace

Go To Line 'V Next Page

```
GNU nano 2.5.3
                                             File: output.txt
// Determine how the user command is handled
int cmdHandling(char** parsed)
          int i;
         int cmdNum = 2, cmdSwitch = 0;
char* cmds[cmdNum];
         cmds[0] = "exit";
cmds[1] = "cd";
          for(i = 0; i < cmdNum; i++)
                    if(strcmp(parsed[0], cmds[i]) == 0)
                              cmdSwitch = i + 1;
          switch (cmdSwitch)
          case 1:
                    printf("\x1b[32m" "Exiting...\n\n");
printf("\x1b[37m");
                    exit(0);
          case 2:
                    chdir(parsed[1]);
return 1;
                 ^O Write Out
^R Read File
                                   ^W Where Is

^ Replace
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Uncut Text To Spell
^G Get Help
^X Exit
                                                                                          C Cur Pos
Go To Line
Next Page
```

```
File: output.txt
 GNU nano 2.5.3
                   if(strcmp(parsed[0], cmds[i]) == 0)
                            cmdSwitch = i + 1;
         switch (cmdSwitch)
         case 1:
                   printf("\x1b[32m" "Exiting...\n\n");
printf("\x1b[37m");
exit(0);
         case 2:
                   chdir(parsed[1]);
                   return 1;
         default:
                   break;
         return 0;
// Executes the user's command
void execCmds(char** parsed)
         printf("\x1b[32m" "\n------Program Started----\n" "\x1b[37m");
pid_t pid = fork();
         if(pid == -1)
                   printf("\x1b[31m" "\nFailed fork\n");
                   return;
^G Get Help
^X Exit
                                ^W Where Is
^\ Replace
                ^O Write Out
^R Read File
                                                  TK Cut Text
Ty
Uncut Text
To Spell
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Go To Line W Next Page
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```
GNU nano 2.5.3
                                      File: output.txt
         return 0;
// Executes the user's command
void execCmds(char** parsed)
         printf("\x1b[32m" "\n------Program Started-----\n" "\x1b[37m");
        pid_t pid = fork();
         if(pid == -1)
                 printf("\x1b[31m" "\nFailed fork\n");
        else if (pid == 0)
                 if(execup(parsed[0], parsed) < 0)</pre>
                          printf("\x1b[31m" "\nCould not execute\n");
                 exit(0);
        else
                 waitpid(NULL);
                 printf("\x1b[32m" "\n------Program Ended----\n" "\x1b[37m");
                 return:
^G Get Help
^X Exit
               ^O Write Out ^W Where Is
^R Read File ^ Replace
                                             TK Cut Text Tustify
Uncut Text To Spell
                                                                            Cur Pos Y Prev Page
Go To Line W Next Page
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```
GNU nano 2.5.3
                                                File: output.txt
                     if(execup(parsed[0], parsed) < 0)</pre>
                                printf("\x1b[31m" "\nCould not execute\n");
                     exit(0);
          else
{
                     waitpid(NULL);
                     printf("\x1b[32m" "\n------Program Ended----\n" "\x1b[37m");
                     return;
int main(void)
          int shouldRun = 1, changeDir;
char input[1000], *parsed[100];
          motd();
          while(shouldRun)
                     currentDir();
fgets(input, 1000, stdin);
strtok(input, "\n");
                     parseString(input, parsed);
changeDir = cmdHandling(parsed);
                     if(changeDir == 0)
                  ^O Write Out
^R Read File
                                    ^W Where Is

^ Replace
                                                        TR Cut Text J Justify
U Uncut Text T To Spell
                                                                                              Cur Pos Y Prev Page
Go To Line W Next Page
   Get Help
^G Get F
^X Exit
```

```
GNU nano 2.5.3
                                          File: output.txt
         int shouldRun = 1, changeDir;
         char input[1000], *parsed[100];
         motd();
         while(shouldRun)
                  currentDir();
                  fgets(input, 1000, stdin);
strtok(input, "\n");
                  parseString(input, parsed);
changeDir = cmdHandling(parsed);
                   if(changeDir == 0)
                           execCmds(parsed);
                  }
         return 0;
 `[[37m^[[32m
            Program Ended--
 `[[37m^[[34m/home/aardon> ^[[37mls /bin
 `[[32m
           -Program Started-
bash
                                     mt-gnu
                                                          sh.distrib
                       dumpkeys
htrfs
                       echo
                                                          sleep
                                     ΜV
btrfs-calc-size
                       ed
                                     nano
                                                          22
btrfsck
                                                          static-sh
                       egrep
                                     nc
btrfs-convert
                       false
                                     nc.openbsd
                                                          stty
btrfs-debug-tree
                                     netcat
                       fgconsole
                                                          SII
                ^O Write Out
^R Read File
                                                 TR Cut Text TJ Justify
Uncut Text T To Spell
   Get Help
                                   Where Is
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   Exit
                                    Replace
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```
GNU nano 2.5.3
                                         File: output.txt
btrfs-map-logical
                       fsck.btrfs
                                    nisdomainname
                                                        systemd
btrfs-select-super
                                                        systemd-ask-password
                       fuser
                                    ntfs-3g
                                    ntfs-3g.probe
ntfs-3g.secaudit
btrfs-show-super
                       fusermount
                                                        systemd-escape
                                                        systemd-hwdb
                      getfacl
btrfstune
btrfs-zero-log
                                    ntfs-3g.usermap
                                                        systemd-inhibit
                       grep
gunzip
                                                        systemd-machine-id-setup
bunz i p2
                                    ntfscat
                                                        systemd-notify
systemd-tmpfiles
busybox
                                    ntfscluster
                       gzexe
                                    ntfscmp
ntfsfallocate
bzcat
                       gzip
                                                         systemd-tty-ask-password-agent
bzcmp
bzdiff
                       hostname
                       ip
                                    ntfsfix
                                                         tailf
                       journalctl
kbd_mode
bzegrep
                                    ntfsinfo
                                                         tar
bzexe
                                    ntfsls
                                                         tempfile
bzfgrep
                       kill
                                    ntfsmove
                                                         touch
                                    ntfstruncate
bzgrep
                       kmod
                                                         true
bzip2
                                                        udevadm
                       less
                                    ntfswipe
<u>b</u>zip2recover
bzless
                       lessecho
                                    open
                                                        ulockmgr_server
                                    openvt
                       lessfile
                                                        umount
                                    pidof
bzmore
                       lesskeu
                                                        uname
                       lesspipe
cat
                                    ping
                                                        uncompress
chac l
                                    ping6
                                                        unicode_start
                       ln
chgrp
chmod
                       loadkeys
                                    plymouth
                                                        vdir
                                                        wdctl
                       login
                                    ps
                       loginctl
chown
                                    pwd
                                                        which
                       lowntfs-3g
                                                        whiptail
chvt
                                    rbash
cp
cpio
                       ls
                                    readlink
                                                         ypdoma inname
                       lsblk
                                    red
                                                         zcat
dash
                       lsmod
                                    rm
                                                        zcmp
date
                       mkdir
                                    rmdir
                                                        zdiff
dd
                       mkfs.btrfs
                                    rnano
                                                        zegrep
đf
                                                        zfgrep
                       mknod
                                    run-parts
dinoBash
                      mktemp
                                    sed
                                                        zforce
dir
                                    setfacl
                       more
                                                        zgrep
                                                                               C Cur Pos
                               ^₩ Where Is
^\ Replace
^G Get Help
^X Exit
                ^O Write Out
^R Read File
                                                TK Cut Text TJ Justify
Uncut Text T To Spell
```

```
GNU nano 2.5.3
                                                 File: output.txt
bzmore
                           lesskey
                                           pidof
                                                                   uname
cat
chacl
                                           ping
                                                                   uncompress
                            lesspipe
                                           ping6
                                                                   unicode_start
                            ln
chgrp
chmod
                            loadkeys
                                           plymouth
                                                                   vdir
                                           ps
pwd
                            login
                                                                   wdctl
                            loginctl
chown
                                                                   which
chvt
                            lowntfs-3g
                                           rbash
                                                                   whiptail
chut
cp
cpio
dash
date
dd
df
dinoBash
dir
dmesg
dnsdomainname
                                                                   ypdoma inname
                                           readlink
                            ls
                           lsblk
                                           red
                                                                   zcat
                           lsmod
mkdir
mkfs.btrfs
                                                                   zcmp
zdiff
                                           rm
                                           rmdir
                                           rnano
                                                                   zegrep
                           mknod
                                           run-parts
                                                                   zfgrep
                                           sed
setfacl
                           mktemp
                                                                   zforce
                                                                   zgrep
                           more
                           mount
                                           setfont
                                                                   zless
                           mountpoint
                                           setupcon
                                                                   zmore
doma inname
^[[37m^[[32m
                           mt
                                           sh
                                                                   znew
              -Program Ended-
 ^[[37m^[[34m/home/aardon> ^[[37mmkdir temp
^[[32m
              -Program Started-
 ^[[37m^[[32m
              -Program Ended-
 ------
^[[37m^[[34m/home/aardon> ^[[37mcd temp
^[[34m/home/aardon/temp> ^[[37mpwd
  `[[32m
 -----Program Started--
/home/aardon/temp
^[[37m^[[32m
             --Program Ended--
^G Get Help
^X Exit
                   ^O Write Out
^R Read File
                                      ^₩ Where Is
^\ Replace
                                                         TK Cut Text TJ Justify
U Uncut Text T To Spell
                                                                                               Cur Pos Y Prev Page
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/home/aardon> mkdir temp
Program Started
Program Ended /home/aardon> cd temp /home/aardon/temp> pwd
Program Started /home/aardon/temp
Program Ended/ /home/aardon/temp> cd /home/aardon> pwd
Program Started /home/aardon
Program Ended /home/aardon> exit Exiting
Script done, file is output.txt
Program Ended /home/aardon>