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CSE 460

Lab 1

20 points total

1) Basic Linux Commands

*ls* – List the files in the current directory

```
[005029683@csusb.edu@jbh3-1 ~]$ ls
'Big C++ _ 2nd edition.pdf'  CSE202      Downloads    Public
classwork.tgz               cse330      Dropbox      sa.m
coins3~                     cse-workshop DROPBOX_CONNECT Templates
coins4.cpp~                 Desktop     Music        Videos
cse201                      Documents   Pictures
```

*ls -all* – List the files in the current directory with system access, author, and date created

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls -a
.  ..  lab2  lab3  lab4  lab5  lab6  lab7
[005029683@csusb.edu@jbh3-1 cse201]$ man ls
[005029683@csusb.edu@jbh3-1 cse201]$ ls -all
total 97
drwxr-xr-x  8 005029683@csusb.edu domain users@csusb.edu  8 Oct 19  2016 .
drwx----- 58 005029683@csusb.edu domain users@csusb.edu 79 Apr  4 18:49 ..
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu  7 Oct 18  2014 lab2
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu  7 Oct 21  2014 lab3
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu 11 Oct 28  2014 lab4
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu 15 Nov 18  2014 lab5
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu 11 Nov 25  2014 lab6
drwxr-xr-x  2 005029683@csusb.edu domain users@csusb.edu 14 Dec  2  2014 lab7
[005029683@csusb.edu@jbh3-1 cse201]$
```

*cp* – Copies files and directories

```
[005029683@csusb.edu@jbh3-1 lab2]$ cp test1.txt test2.txt ..
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3  coins3.cpp  coins4  coins4.cpp  coins4.cpp~  test1.txt  test2.txt
[005029683@csusb.edu@jbh3-1 lab2]$ cd ..
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2  lab3  lab4  lab5  lab6  lab7  test1.txt  test2.txt
[005029683@csusb.edu@jbh3-1 cse201]$
```

*cp* – Send to directory in current directory

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7 test1.txt test2.txt test3.txt
[005029683@csusb.edu@jbh3-1 cse201]$ cp test3.txt lab2
[005029683@csusb.edu@jbh3-1 cse201]$ cd lab2
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins4 coins4.cpp~ test2.txt
coins3.cpp coins4.cpp test1.txt test3.txt
[005029683@csusb.edu@jbh3-1 lab2]$
```

*rm* – remove files or directories

```
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins4 coins4.cpp~ test2.txt
coins3.cpp coins4.cpp test1.txt test3.txt
[005029683@csusb.edu@jbh3-1 lab2]$ rm test3.txt
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins3.cpp coins4 coins4.cpp coins4.cpp~ test1.txt test2.txt
[005029683@csusb.edu@jbh3-1 lab2]$
```

*rm* – remove multiple files

```
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins3.cpp coins4 coins4.cpp coins4.cpp~ test1.txt test2.txt
[005029683@csusb.edu@jbh3-1 lab2]$ rm test1.txt test2.txt
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins3.cpp coins4 coins4.cpp coins4.cpp~
[005029683@csusb.edu@jbh3-1 lab2]$
```

*mv* – move files or directories

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7 test1.txt test2.txt test3.txt
[005029683@csusb.edu@jbh3-1 cse201]$ mv test1.txt test2.txt test3.txt lab2
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7
[005029683@csusb.edu@jbh3-1 cse201]$ cd lab2
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3 coins4 coins4.cpp~ test2.txt
coins3.cpp coins4.cpp test1.txt test3.txt
[005029683@csusb.edu@jbh3-1 lab2]$
```

*mv* – Rename a file using mv

```
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3      coins4      coins4.cpp~ test2.txt
coins3.cpp  coins4.cpp  test1.txt   test3.txt
[005029683@csusb.edu@jbh3-1 lab2]$ mv test3.txt renamed.txt
[005029683@csusb.edu@jbh3-1 lab2]$ ls
coins3      coins4      coins4.cpp~ test1.txt
coins3.cpp  coins4.cpp  renamed.txt  test2.txt
[005029683@csusb.edu@jbh3-1 lab2]$
```

*cd* – “Change Directory” by itself takes you to home directory

```
[005029683@csusb.edu@jbh3-1 cse201]$ pwd
/home/csusb.edu/005029683/cse201
[005029683@csusb.edu@jbh3-1 cse201]$ cd
```

*cd ..* - Takes user down one directory

```
[005029683@csusb.edu@jbh3-1 cse201]$ pwd
/home/csusb.edu/005029683/cse201
[005029683@csusb.edu@jbh3-1 cse201]$ cd ..
[005029683@csusb.edu@jbh3-1 ~]$ pwd
/home/csusb.edu/005029683
[005029683@csusb.edu@jbh3-1 ~]$
```

*mkdir* – “make directory” makes a directory

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7
[005029683@csusb.edu@jbh3-1 cse201]$ mkdir testfolder
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7 testfolder
[005029683@csusb.edu@jbh3-1 cse201]$
```

*mkdir [][[]]* – Make multiple directories

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7
[005029683@csusb.edu@jbh3-1 cse201]$ mkdir -p test1 test2 test3
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7 test1 test2 test3
[005029683@csusb.edu@jbh3-1 cse201]$
```

*vi* – a built in text editor, can create files or edit existing files

```
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7
[005029683@csusb.edu@jbh3-1 cse201]$ vi test
[005029683@csusb.edu@jbh3-1 cse201]$ ls
lab2 lab3 lab4 lab5 lab6 lab7 test
[005029683@csusb.edu@jbh3-1 cse201]$
```

## 2) Simple C++ program

Main.cpp:

```
#include <iostream>
#include "message.h"

using namespace std;

int main()
{
    display_message();

    return 0;
}
```

Message.cpp:

```
#include <iostream>
#include "message.h"

using namespace std;

void display_message() {
    string input;
    cout << "message: ";
    getline(cin, input);
    cout << endl << "OUTPUT: " << input << endl;
}
```

Message.h:

```
void display_message();
```

Makefile:

```
lab1: main.o message.o
    g++ -o lab1 message.o main.o
main.o: main.cpp
    g++ -c main.cpp
message.o: message.cpp
    g++ -c message.cpp
```

Output:

```
[005029683@csusb.edu@jbh3-1 lab1]$ ls
lab1 main.cpp main.o Makefile message.cpp message.h message.o
[005029683@csusb.edu@jbh3-1 lab1]$ lab1
message: CSUSB is beautiful!

OUTPUT: CSUSB is beautiful!
[005029683@csusb.edu@jbh3-1 lab1]$
```