CSC415 HW2

Name: Cheng Li
SFSU ID: 916422876
Host OS: Windows 7
Guest OS: Linux (Ubuntu 14) on VirtualBox

1. Programming in Linux (in VirtualBox)

Requirement:

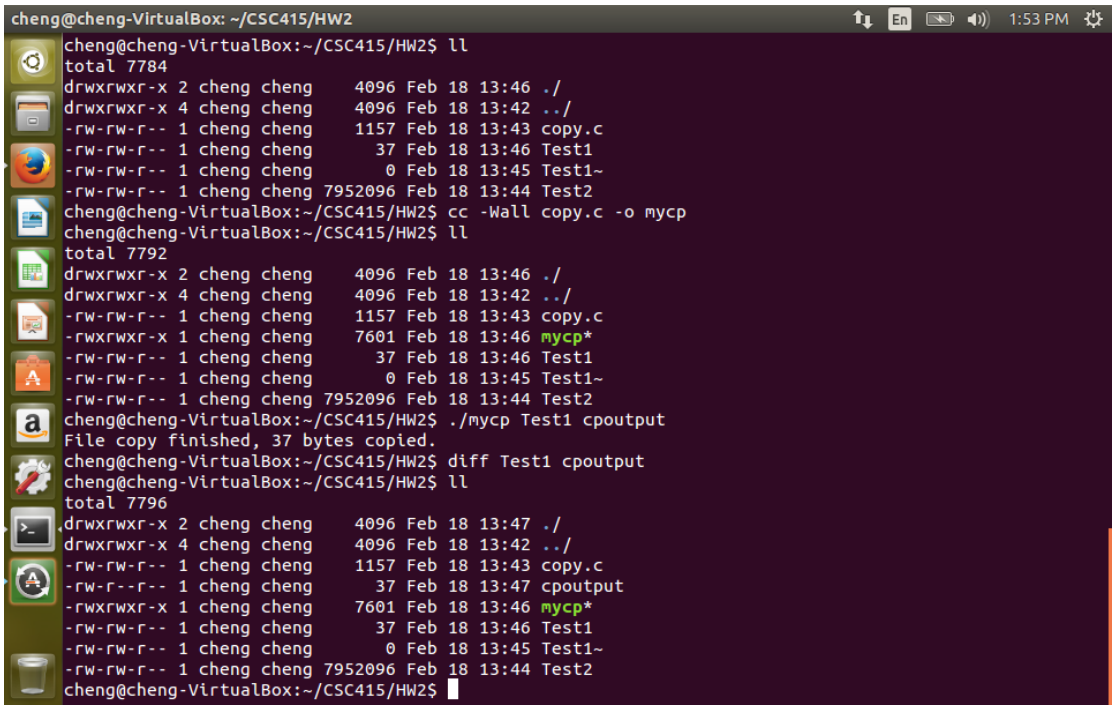
- Make a copy program and output the total bytes read

Code Segment:

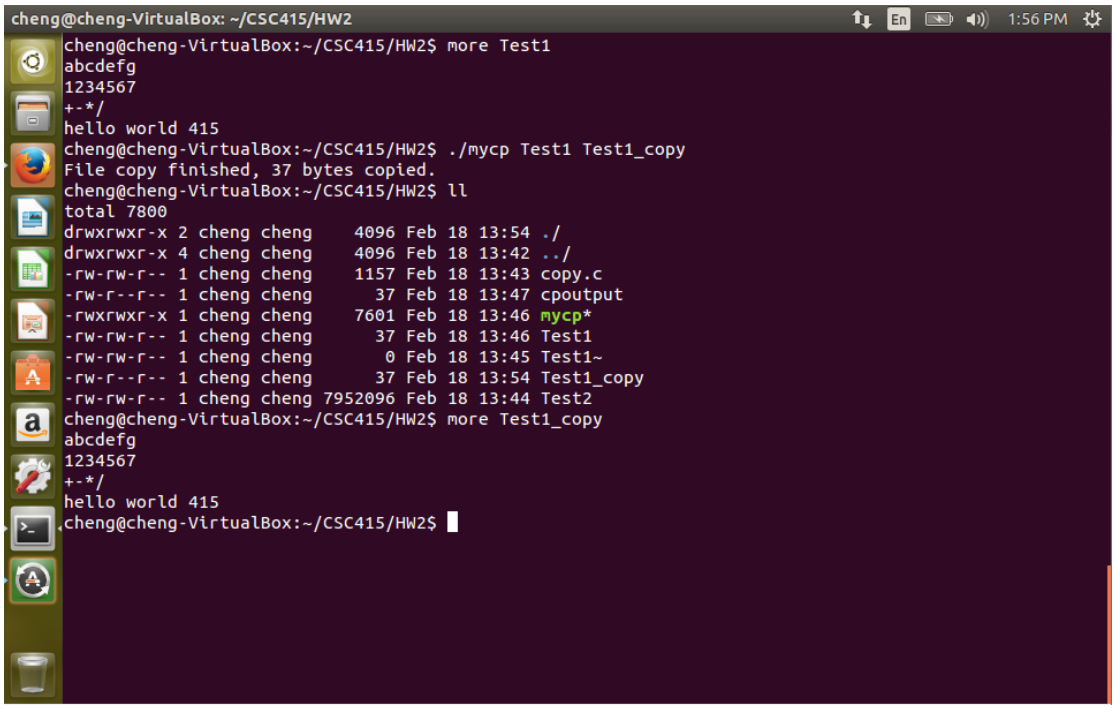
```c
/**HW2
* Copy.c
* By Cheng LI
*
**/

#include <unistd.h>
#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
#include <errno.h>
#include <sys/types.h>

#define BUF_SIZE 1024

int main(int argc, char const *argv[])
{
  int input_fd, output_fd;  // Input and output file descriptor
  ssize_t bytes_in=0, bytes_out=0, bytes_read_all=0; // Num of bytes returned
  char buffer[BUF_SIZE]; // Buffer

  /*Check the proper usesage*/

  if (argc!=3)
  {
    printf("Usage: mycp file1 file2 \n");
    return 1;
  }

  /*Open input file*/
  input_fd = open(argv[1],O_RDONLY);
  if (input_fd<0)
```

```c
/*Open input file*/
input_fd = open(argv[1],O_RDONLY);
if (input_fd<0)
{
  perror("Open the input file");
  return 1;
}

/*Create the output file*/
output_fd = open(argv[2],O_CREAT|O_TRUNC|O_WRONLY, 0644);
if (output_fd < 0)
{
  perror("Open the output file");
  return 2;
}

/*Copy process*/
while((bytes_in=read(input_fd, buffer, BUF_SIZE)) > 0)
{
  bytes_out = write(output_fd, buffer, (ssize_t)bytes_in);
  if (bytes_in != bytes_out)
  {
    perror("Write error");
    return 4;
  }
  bytes_read_all += bytes_out;
}

printf("File copy finished, %u bytes copied.\n", bytes_read_all);

close(input_fd);
```

Compile and run:



Copy ASCII file



Copy a binary file (The Test2 in the folder)