[2014 網路系統程式設計 Homework 3]

● 主旨

Learn how to implement some of the functionality for the ls command.

Learn how to implement some of the functionality for the mv command.

● 第一部分

1. Write a command called **myls** that lists the contents of specified directory.
    Usage: myls [direcory]
    It reads the current directory and displays all entries except "." and "..", or the
    specified directory if given as an argument. Print each entry on a separate line,
    and do not worry about formatting because ls does it. Because the following
    exercises also read a directory, you might have a function do the listing, as:

    void list_directory(dir)
    {
        char *dir;
        …
    }

    In addition, your myls command must support the follow two options:

    (1) Support the **-F** option, which acts like ls -F. Print the file type symbol after
    the file name. Use the man page or the real ls -F to determine symbols.

    (2) Support the **-R** flag. This flag causes myls to recursively process directories.
        Hint: Use getopt.

2. 執行結果如下：

-F

```
vacha@sun2:~/hw3/part1$ ./myls -F

/nfs/home/master/vacha/hw3/part1:
makefile
myls.c
A/
B/
myls*
vacha@sun2:~/hw3/part1$
```

-F-R

```
vacha@sun2:~/hw3/part1$ ./myls -F -R

/nfs/home/master/vacha/hw3/part1:
makefile
myls.c
A/
B/
myls*

/nfs/home/master/vacha/hw3/part1/A:
b
a.c
c/

/nfs/home/master/vacha/hw3/part1/A/c:
d

/nfs/home/master/vacha/hw3/part1/B:
vacha@sun2:~/hw3/part1$
```

● 第二部分

1. Write a command **mymv** that acts as the mv command does.
   Usage: mymv filel filel2   //This command renames filel to file2
   　　　　 mymv filel directory   //This command renames filel to directory/filel

   Rename the first argument to the second one. If the second argument is a
   directory that exists, the first argument is renamed into that directory (the rename
   system call does not do this automatically). For safety, if the second argument
   already exists, ask the user to confirm before overwriting (act as "my -i").

```
vacha@sun2:~/hw3/part2$ ls -R
.:
dir  fileA  makefile  mymv  mymv.c

./dir:
vacha@sun2:~/hw3/part2$ ./mymv fileA fileB
vacha@sun2:~/hw3/part2$ ls
dir  fileB  makefile  mymv  mymv.c
vacha@sun2:~/hw3/part2$ cp fileB fileA
vacha@sun2:~/hw3/part2$ ./mymv fileA dir
vacha@sun2:~/hw3/part2$ ls -R
.:
dir  fileB  makefile  mymv  mymv.c

./dir:
fileA
vacha@sun2:~/hw3/part2$ diff fileB dir/fileA
vacha@sun2:~/hw3/part2$ 
```

● 第三部分

1. Add code to the lookup2.c file to do a binary search through a file of fixed
   length records. After the file has been edited, type make or make isam_lookup.
   When you get the prompt, type isam_lookup fixrec.

2. Files provided :
   A. makefile
   B. main.c
   C. lookup2.c
   D. fixrec
   E. dict.h

3. 執行結果如下：

```
vacha@sun2:~/hw3/part3$ ./isam_lookup fixrec
What word do you want : work
work : The curse of the drinking classes.
What word do you want : worker
worker : Not Found!
What word do you want : ^C
vacha@sun2:~/hw3/part3$ 
```

● 規則

1. 請使用C語言完成本次作業並在Ubuntu 14.04系統上進行執行、測試。

2. 必須上傳能編譯本次作業之Makefile，內容不拘，未寫扣分。

3. 請對你的程式碼有深入瞭解，demo時助教會問。

4. 對作業有問題歡迎來信助教群（sp_ta@net.nsysu.edu.tw）或是直接到實驗室（EC5018）詢問，但不幫忙debug。

5. 逾期以零分計算，不接受補交，有問題請事先告知，demo時間會另外通知。

6. 嚴禁抄襲其他同學的作業，參與者(抄襲與被抄襲)均以零分計算。

● 作業上傳

1. 請壓縮成zip或tar的壓縮檔，並上傳至中山網路大學，作業命名規則為"學號_SP_HW3"。

   Example: M013040001_SP_HW3.zip

2. 作業截止時間為2014/10/14 (Tue.) 23:59，請在時間內上傳作業。