Lab #2 – System Call I/O

Notes:

- You can only use system call open/close/read/write/lseek. No library I/O allowed.
- You may be given different text files for lab test. Those texts may include *line feed*, *tab*, *space*, *integer*, *string* etc.

Part I.

Write a C program called *writer.c*. It uses system call I/O to create a file called *list1.txt* which has the following text-based content:

```
101  GM   Buick      2010
102  Ford Lincoln    2005
```

There are three blanks between the first and the second columns. There is one tab between the second and third, and between the third and fourth columns.

You can only call function *write* once. After file *list1.txt* is created, type the following commands to check the content of the file. Make sure you understand how characters are internally saved.

```
>>>>> more list1.txt
>>>>> od –c list1.txt
>>>>> xxd list1.txt
```

Part II.

Write a C program called *change1.c*. Use system call I/O to open the file *list1.txt,* and replace the *string 101* with *integer 101*. After executing the program, type the following commands to check the content of the file:

```
>>>>> more list1.txt        # doesn't work – not text-based!
>>>>> od –c list1.txt
>>>>> xxd list1.txt
```

Part III

Consider the car list where the first and second columns are swapped, with a tab between them.

```
GM   101  Buick      2010
```

Ford 102 Lincoln 2005

Repeat Part I to create this text-based *list2.txt*. Use *lseek()* to write a program called *change2.c*. Similar to Part II, it works on *list2.txt* to replace the *string 101* with *integer 101*. Check your result.