CSC230 Lab 4

Due: Feb 27th, 11:59pm

Goal: This lab includes function and arguments passing. You will use **fstream, compare, eof()**.

Please try your best to finish the lab in class, and submit it to CANVAS.

In this lab, please write a **Lab4.cpp** file. There is main function in this file. Please do not define additional functions in this lab.

The program Lab4.cpp reads contents from input file, which is "sample.txt" in today's lab. Each row of the input file has a leading char, followed by a **string** of SSN, and first name and last name. The program stores SSN and the corresponding name (including both first name and last name) to an vector. After the whole input file is processed, the program prompts the user to type a SSN, then it will search the SSN in the vector. If there is a match, the program prints out the index value of the entry. For example,

```
jli$ ./a.out sample.txt
Input a SSN:
766434955
Found at location 4

jli$ ./a.out sample.txt
Input a SSN:
038249140
Found at location 8
```

In this lab, you can use fstream library to read file. An example code is listed as follows:

```
#include <iostream>
#include <fstream>
using namespace std;

int main(int argc, char* argv[]){
  int x, y, z;
  fstream input(argv[1]);
  while(!input.eof()){
    input >> x >> y >> z;
  }
  input.close();
}
```

In the above example,

- the file name is stored in argv[1]
- eof() checks whether we are reaching the end of file. If yes, it returns true; otherwise, false. eof() is similar to hasnext() method in Java.

- each row of the input file has three integers, the while loop reads these three integers and stores them in variables x, y, and z
- it is a good idea to close the file if you do not need it any more

There are several requirements in this lab:

- Define a struct, which has two string variables – SSN and name.
- Use the struct to statically define a vector with size 1000.