Tara Moses

S. Gauch

Programming Foundations I

April 14, 2015

**Problem Statement:**

The goal of this programming assignment was to fill out functions for a DNS class and then use those functions to manipulate various IP addresses and website URLs. The user is expected to input characters indicating what they would like to do with the DNS class. If the user wishes to read in from a file, they are expected to input the name of the file with which to do so. The program outputs the contents of the DNS class when asked to. Error handling was required to make sure the user didn’t input a character other than the ones that correspond to DNS actions.

**Design:**

Most of the program was outlined in comments, so I didn’t make many design decisions myself. The DNS class consisted of two arrays holding the IP addresses and URLs. No algorithms were used. The program was split into three parts: the header, the .cpp file holding all of the class functions, and the driver. This makes it more organized and easier to read.

**Implementation:**

I started with the sample code provided on the PFI website. Then I created the basic functions written in the code. After making sure it compiled, I added the actual code for each function. Then I filled in the AddWebsite() function in the driver, and then I filled out the main function by adding a switch statement.

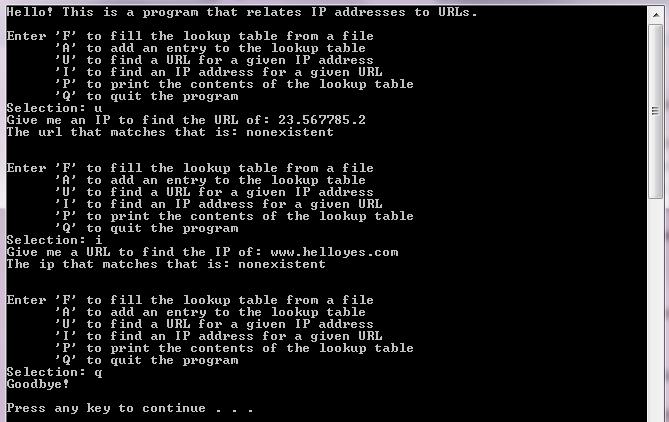
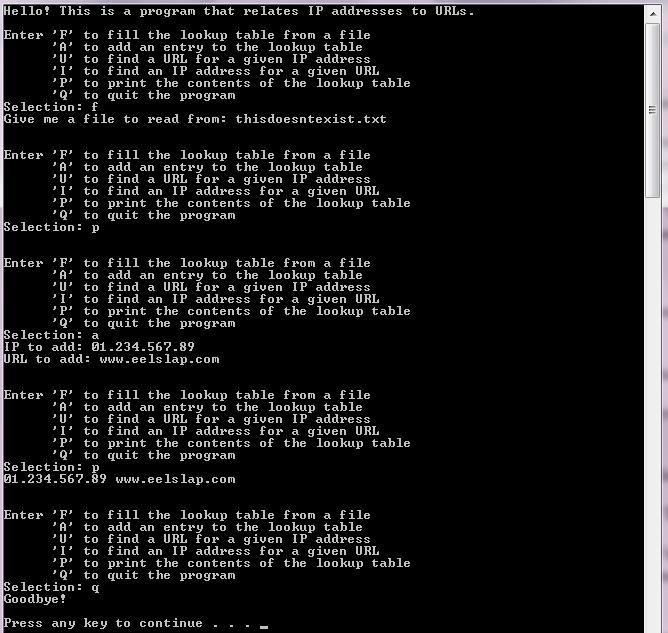
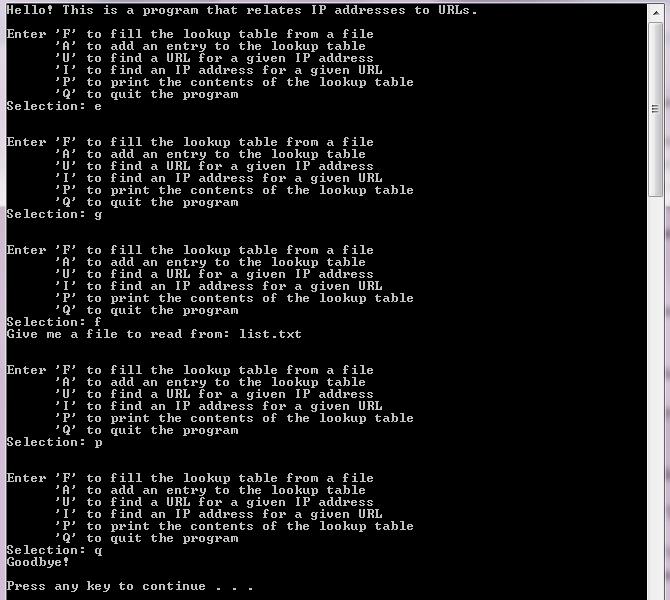
**Testing:**

The program was tested after each function was completed. The normal inputs were the regular characters F, U, I, A, P, and Q. Special inputs like numbers and unacceptable characters were tested as well. When the user was prompted to give the name of a file to read in, the normal input was “list.txt” and special cases included names of files that did not exist. Everything worked as expected; when the file did not exist, the program failed quietly.

**Conclusions:**

The program successfully took in a file of IPs and URLs, let the user add in their own IPs and URLs, and print out the lookup table to the user. Next time I’d try my hand at the bonus, but today I’m just really lazy. The project took about two hours to complete.

**Test Cases:**

****