

**Homework 4: Stacks****Due Date:** 10/4/24

Every modern web browser has a “history” feature with **Back** and **Forward** buttons that enable users to traverse the sequence of webpages they have visited. Pressing the **Back** button revisits the previous webpage, while pressing the **Forward** button returns to next visited webpage (if it exists). In this homework, you’ll implement this feature using just two stacks.

The following files are given to you:

1. A C++ header file (browserhistory.h) declaring the **BrowserHistory** class.
2. A C++ source file (main.cpp) containing a main() function with tests.

Create a new C++ source file named **browserhistory.cpp** that implements the class declared in browserhistory.h so that browserhistory.cpp and the provided files compile into a program that runs with no failed tests.

Submit just the source code of **browserhistory.cpp**. You don't need to submit the main.cpp file because I will use **my own browserhistory.h and main.cpp** files to evaluate your browserhistory.cpp file.

Review the examples discussed in class and the textbook to get an idea of what you need to do. Below, I am providing a sample run of the interactive mode so you can analyze it to understand how your solution should work.

Do not hesitate to use Blackboard Message to ask your questions/doubts about this assignment. I will reply as soon as I can.

**IMPORTANT:**

Make sure your program compiles and executes in full (it should pass all the tests included in main()).

**You must submit ONLY ONE solution per team.**

Your program must be well commented, use meaningful identifiers, and use indentation to improve its readability.

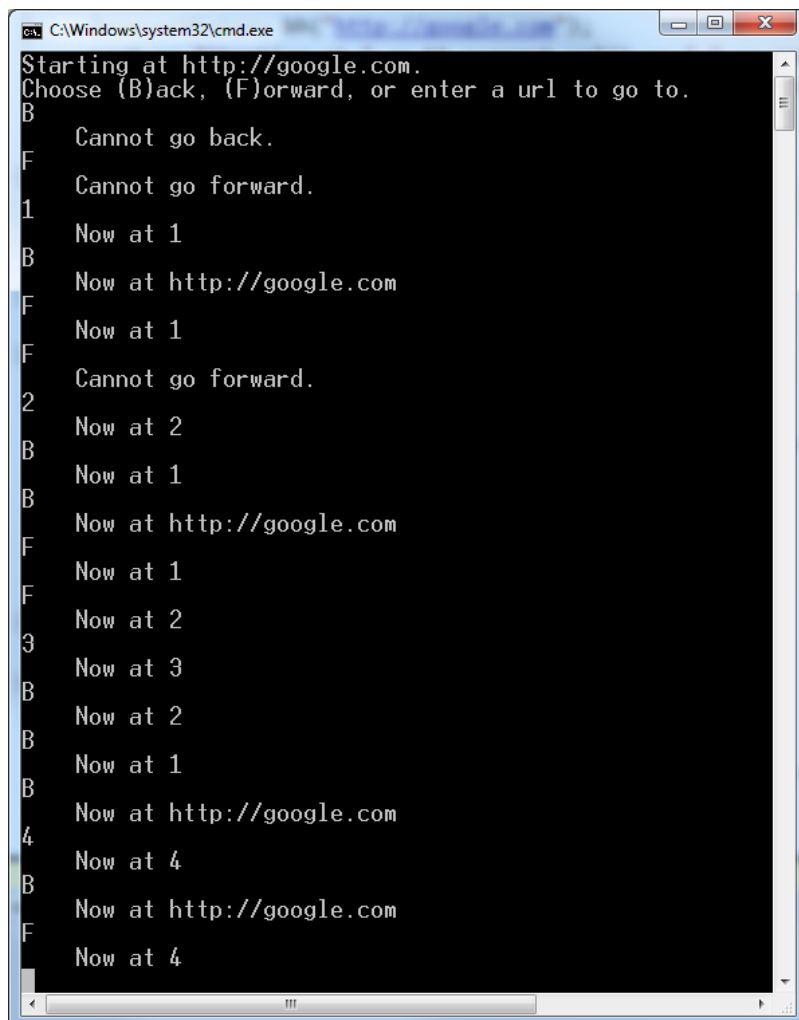
Your program must have the following comments at the top:

```
//*****  
// Team #          CSCI 2380          Fall 2024          Homework # 4  
// First and Last Name  
// First and Last Name  
//  
//*****
```

When done, submit your solution through Blackboard using the “Assignments” tool. Do Not email it.

Paste the **link** to your final **onlinegdb** solution along with your **source code** in the textbox opened when you click on **Create Submission** before you click on **Submit**.

The following is a sample run:



```
C:\Windows\system32\cmd.exe  
Starting at http://google.com.  
Choose (B)ack, (F)orward, or enter a url to go to.  
B      Cannot go back.  
F      Cannot go forward.  
1      Now at 1  
B      Now at http://google.com  
F      Now at 1  
F      Cannot go forward.  
2      Now at 2  
B      Now at 1  
B      Now at http://google.com  
F      Now at 1  
F      Now at 2  
3      Now at 3  
B      Now at 2  
B      Now at 1  
B      Now at http://google.com  
4      Now at 4  
B      Now at http://google.com  
F      Now at 4
```

The following is the basic criteria to be used to grade your submission:

You start with 100 points and then lose points as you don't do something that is required.

- 2: Does not pass test (each)
- 10 : No comments or too few comments in source code
- 10 : Incorrect implementation of `BrowserHistory()`
- 10 : Incorrect implementation of `go_to_url()`
- 10 : Incorrect implementation of `back()`
- 10 : Incorrect implementation of `can_go_back()`
- 10 : Incorrect implementation of `past_url_count()`
- 10 : Incorrect implementation of `forward()`
- 10 : Incorrect implementation of `can_go_forward()`
- 10 : Incorrect implementation of `future_url_count()`
- 30 : Did not use past and future according to specifications in `browserhistory.h`
- 20 : Program crashes when executed
- 10 : Unnecessary statements in your code
- 20: Incorrect/missing source code
- 20: Incorrect/missing link to your Repl.it solution
- 40 : Program does not compile
- 100: No team contribution
- 100: The code submitted is not your creation (you got it from a web site or another person)
- 10 : Late

**Important:** more points may be lost for other reasons not specified here.