

Homework 4: Stacks**Due Date: 2/28/25**

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.

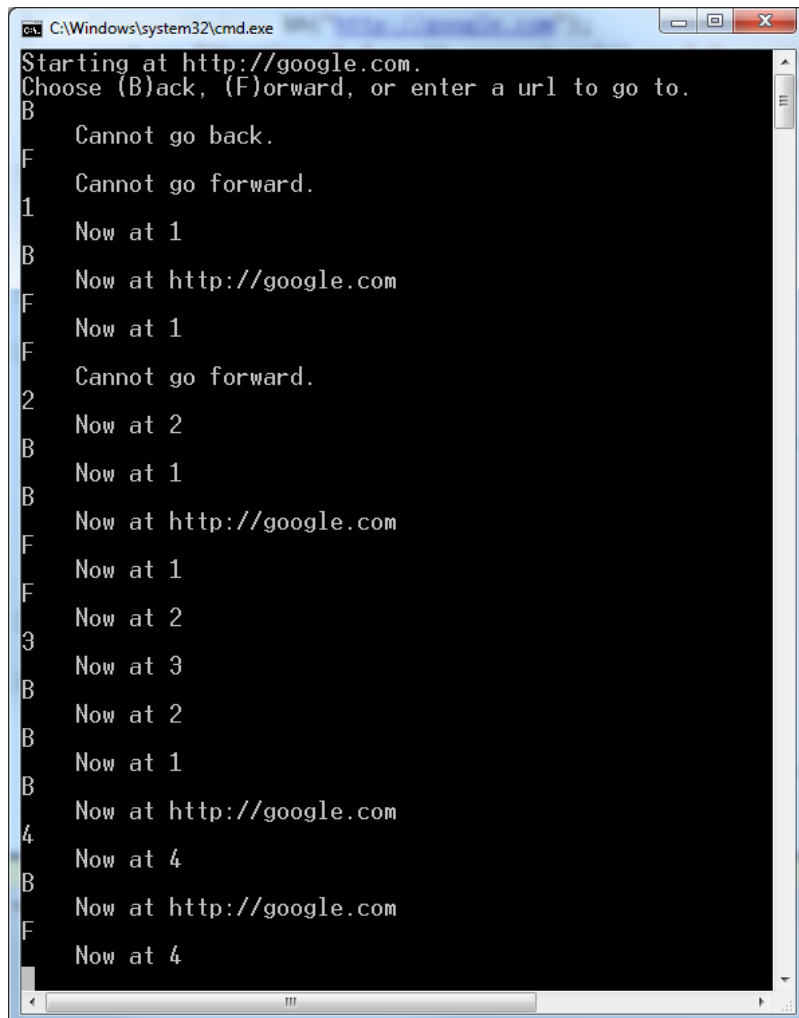
Your program must have the following comments at the top:

```
//*****  
// Team #          CSCI 2380          Spring 2025          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 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.