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ASSIGNMENT NO.7

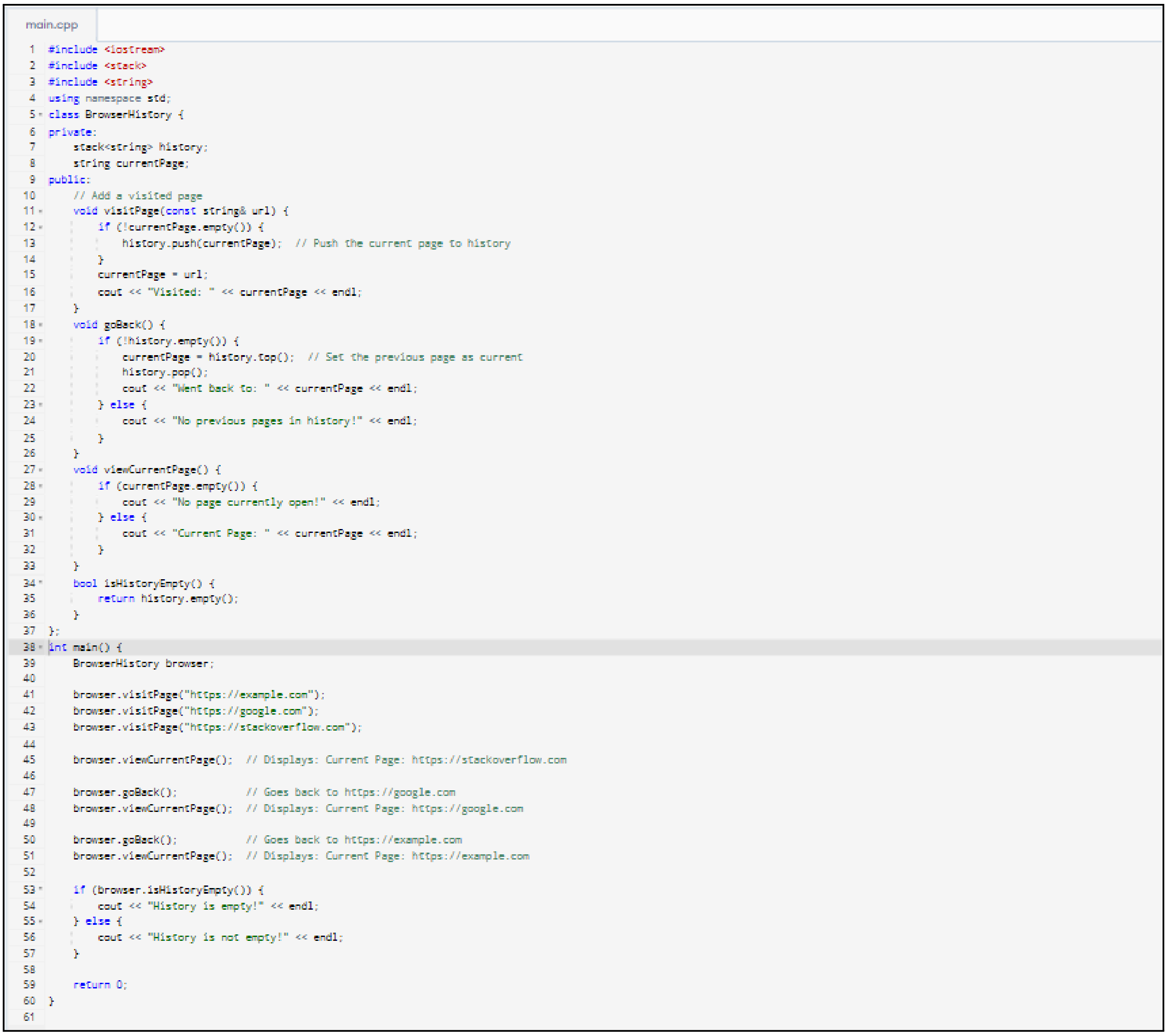
Implement a browser history management system using a stack data structure to track the user's browsing history. The system should support the following functionalities:
a. Add visited page
b. Navigate back
c. View current page
d. Check if history is empty or not

CODE :

```
#include <iostream>
#include <stack>
#include <string>
using namespace std;

class BrowserHistory {
private:
   stack<string> history;
   string currentPage;

public:
   // Add a visited page
   void visitPage(const string& url) {
      if (!currentPage.empty()) {
         history.push(currentPage);  // Push the current page to history
      }
      currentPage = url;
      cout << "Visited: " << currentPage << endl;
   }

   // Navigate back to the previous page
   void goBack() {
      if (!history.empty()) {
         currentPage = history.top();  // Set the previous page as current
         history.pop();
         cout << "Went back to: " << currentPage << endl;
      } else {
         cout << "No previous pages in history!" << endl;
      }
   }

   // View the current page
   void viewCurrentPage() {
      if (currentPage.empty()) {
            cout << "No page currently open!" << endl;
        } else {
            cout << "Current Page: " << currentPage << endl;
        }
    }

    // Check if history is empty
    bool isHistoryEmpty() {
        return history.empty();
    }
};

int main() {
    BrowserHistory browser;

    browser.visitPage("https://example.com");
    browser.visitPage("https://google.com");
    browser.visitPage("https://stackoverflow.com");

    browser.viewCurrentPage();  // Displays: Current Page: https://stackoverflow.com

    browser.goBack();           // Goes back to https://google.com
    browser.viewCurrentPage();  // Displays: Current Page: https://google.com

    browser.goBack();           // Goes back to https://example.com
    browser.viewCurrentPage();  // Displays: Current Page: https://example.com

    if (browser.isHistoryEmpty()) {
        cout << "History is empty!" << endl;
    } else {
        cout << "History is not empty!" << endl;
    }

    return 0;
}
```

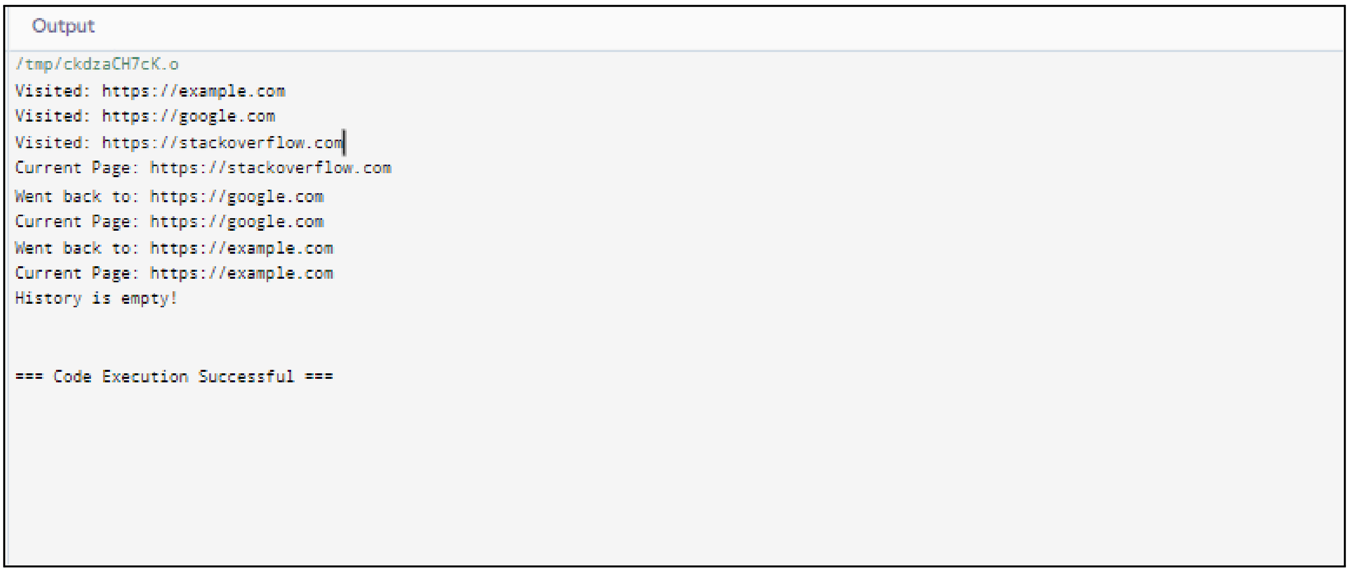
Output :

```
Visited: https://example.com
Visited: https://google.com
Visited: https://stackoverflow.com
Current Page: https://stackoverflow.com
Went back to: https://google.com
Current Page: https://google.com
Went back to: https://example.com
Current Page: https://example.com
History is empty!
```



main.cpp

```cpp
#include <iostream>
#include <stack>
#include <string>
using namespace std;
class BrowserHistory {
private:
    stack<string> history;
    string currentPage;
public:
    // Add a visited page
    void visitPage(const string& url) {
        if (!currentPage.empty()) {
            history.push(currentPage);  // Push the current page to history
        }
        currentPage = url;
        cout << "Visited: " << currentPage << endl;
    }
    void goBack() {
        if (!history.empty()) {
            currentPage = history.top();  // Set the previous page as current
            history.pop();
            cout << "Went back to: " << currentPage << endl;
        } else {
            cout << "No previous pages in history!" << endl;
        }
    }
    void viewCurrentPage() {
        if (currentPage.empty()) {
            cout << "No page currently open!" << endl;
        } else {
            cout << "Current Page: " << currentPage << endl;
        }
    }
    bool isHistoryEmpty() {
        return history.empty();
    }
};
int main() {
    BrowserHistory browser;

    browser.visitPage("https://example.com");
    browser.visitPage("https://google.com");
    browser.visitPage("https://stackoverflow.com");

    browser.viewCurrentPage();  // Displays: Current Page: https://stackoverflow.com

    browser.goBack();           // Goes back to https://google.com
    browser.viewCurrentPage();  // Displays: Current Page: https://google.com

    browser.goBack();           // Goes back to https://example.com
    browser.viewCurrentPage();  // Displays: Current Page: https://example.com

    if (browser.isHistoryEmpty()) {
        cout << "History is empty!" << endl;
    } else {
        cout << "History is not empty!" << endl;
    }

    return 0;
}

```



Output

```
/tmp/ckdzaCH7cK.o
Visited: https://example.com
Visited: https://google.com
Visited: https://stackoverflow.com
Current Page: https://stackoverflow.com
Went back to: https://google.com
Current Page: https://google.com
Went back to: https://example.com
Current Page: https://example.com
History is empty!


=== Code Execution Successful ===
```