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Title: 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 Assume no upper bound on number of pages visited

Code:

```
#include <iostream>
#include <string>


class SimpleBrowserHistory {
private:
    std::string back[100];
    std::string forward[100];
    int backIndex = -1;
    int forwardIndex = -1;
    std::string currentPage;
public:
    void addVisitedPage(const std::string& page) {
        if (!currentPage.empty()) {
            back[++backIndex] = currentPage;
        }
        currentPage = page;
        forwardIndex = -1;
    }
```

```
    std::string navigateBack() {
        if (backIndex >= 0) {
            forward[++forwardIndex] = currentPage;
            currentPage = back[backIndex--];
            return currentPage;
        }
        return "No previous page.";
    }

    std::string navigateForward() {
        if (forwardIndex >= 0) {
            back[++backIndex] = currentPage;
            currentPage = forward[forwardIndex--];
            return currentPage;
        }
        return "No forward page.";
    }

    std::string viewCurrentPage() const {
        return currentPage.empty() ? "No current page." : currentPage;
    }

    bool isHistoryEmpty() const {
        return backIndex == -1 && forwardIndex == -1 && currentPage.empty();
    }
};

void displayMenu() {
```

```
 std::cout << "\nBrowser History Management System\n";
    std::cout << "1. Add Visited Page\n";
    std::cout << "2. Navigate Back\n";
    std::cout << "3. Navigate Forward\n";
    std::cout << "4. View Current Page\n";
    std::cout << "5. Check if History is Empty\n";
    std::cout << "6. Exit\n";
    std::cout << "Enter your choice: ";
}

int main() {
    SimpleBrowserHistory browser;
    int choice;
    std::string page;

    do {
        displayMenu();
        std::cin >> choice;

        switch (choice) {
            case 1:
                std::cout << "Enter page URL: ";
                std::cin >> page;
                browser.addVisitedPage(page);
                break;
            case 2:
                std::cout << "Navigating back to: " << browser.navigateBack() << std::endl;
                break;
            case 3:
```

```
            std::cout << "Navigating forward to: " << browser.navigateForward() <<
std::endl;
            break;
        case 4:
            std::cout << "Current Page: " << browser.viewCurrentPage() << std::endl;
            break;
        case 5:
            std::cout << "Is history empty? " << (browser.isHistoryEmpty() ? "Yes" :
"No") << std::endl;
            break;
        case 6:
            std::cout << "Exiting...\n";
            break;
        default:
            std::cout << "Invalid choice. Please try again.\n";
            break;
      }
   } while (choice != 6);

   return 0;
}
```

Output:

```
Output

/tmp/76bvRBGiFX.o

Browser History Management System
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice: 1
Enter page URL: hello

Browser History Management System3
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice: 1
Enter page URL: hii
```

```
Output

Browser History Management System
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice: 4
Current Page: hii

Browser History Management System
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice: 2
Navigating back to: hello
```

```
Browser History Management System
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice:
3
Navigating forward to: hii

Browser History Management System
1. Add Visited Page
2. Navigate Back
3. Navigate Forward
4. View Current Page
5. Check if History is Empty
6. Exit
Enter your choice: 6\6
Exiting...
```