COMSATS University Islamabad, Attock Campus

Department of Computer Science

Assignment 2:

(CLO-1: Employ linear data structures to solve computing problems.**)**

Deadline: 25 October 2024 (4:30 PM)

Question:

Objective: Implement a browser history management system using stacks in C++ to simulate forward and backward navigation of web pages.

Repository Invite Link:

https://classroom.github.com/a/8o6EEoQy

Task:

- Write a C++ program that simulates a simple browser history using two stacks:
  - **Back Stack**: Stores previously visited pages.
  - **Forward Stack**: Stores pages navigated forward after using the back button.
- Implement the following functionalities:
  - **Visit Page**: Adds a new page to the history, clearing the Forward Stack if a new page is visited after going back.
  - **Back**: Moves to the previous page by popping from the Back Stack and pushing it to the Forward Stack.
  - **Forward**: Moves to the next page by popping from the Forward Stack and pushing it to the Back Stack.
- The program should allow users to:
  - Visit new pages (input page names).
  - Navigate back to previously visited pages.
  - Navigate forward after going back.
- The program should display the current page after each operation and show appropriate messages when the user tries to go back or forward but can't (e.g., when the stacks are empty).

Sample Input

```
Input: Visit A
Output: Current Page: A

Input: Visit B
Output: Current Page: B

Input: Back
Output: Current Page: A

Input: Forward
Output: Current Page: B

Input: Visit C
Output: Current Page: C
```