

# checklist

## struct StackNode:

- ~~char\* url~~
- ~~struct StackNode\* next~~
- ~~struct Stack:~~
  - ~~struct StackNode\* top~~

## stack functions:

- ~~void push(Stack\* stack, char\* newUrl) -> add url to stack~~
- ~~char\* pop(Stack\* stack) -> removes and returns top stack url~~
- ~~char\* peek(Stack\* stack) -> return url from top of stack~~
- ~~bool isEmpty(Stack\* stack) -> check if stack is empty~~
- ~~ensure proper memory management~~

## struct QueueNode:

- ~~char\* url~~
- ~~struct QueueNode\* next~~

## struct Queue

- ~~struct QueueNode\* front~~
- ~~struct QueueNode\* rear~~

## Queue functions:

- ~~void enqueue(Queue\* queue, char\* newUrl) : adds url to rear of the queue~~
- ~~char\* dequeue(Queue\* queue) : removes and returns url from front of the queue~~
- ~~`char\* peek(Queue\* queue)` : Returns the URL from the front of the queue without removing it.~~
- ~~`bool isEmpty(Queue\* queue)` : Checks if the queue is empty.~~
- ~~Ensure proper memory management~~

## main():

When a user visits a new web page, push the URL onto the stack and enqueue it into the queue.

menu options:

### 1. Visit a new web page and add it to the browsing history.

text:

Enter the URL of the web page: `https://example.com`

Visited: `https://example.com`

### 2. Navigate back to the previous web page.

- the program should pop the top URL from the stack to retrieve the previous page URL. This URL should then be displayed to the user, and it should be enqueued into the forward queue to support forward navigation.

### 3. Navigate forward to the next web page.

- the program should dequeue the next URL from the queue to retrieve the next page URL. This URL should then be pushed onto the stack to support backward navigation.

### 4. Display the current web page and the browsing history.

### 5. Exit the browser.

- Ensure that navigating back and forth updates both the stack and queue appropriately to maintain consistency in browsing history.
- Handle edge cases such as reaching the beginning or end of the browsing history, ensuring that the user cannot navigate beyond the available pages.

## menu.txt:

Menu:

- Visit New Web Page
- Navigate Backward
- Navigate Forward
- Display Current Page and History
- Exit