This code provides a generic linked list implementation. To use it, you first need to define a linked list type using the \_\_\_INIT\_LIST\_\_\_ macro:

```
___INIT_LIST___(MyLinkedList, int)
```

This will create a linked list type called MyLinkedList that can store integers.

Once you have defined a linked list type, you can create a new linked list using the create ##LinkedListType() function:

```
MyLinkedList* list = create_MyLinkedList();
```

You can then add elements to the linked list using the

push\_back\_##LinkedListType() or push\_front\_##LinkedListType() functions:

```
push_back_MyLinkedList(list, 10);
push_back_MyLinkedList(list, 20);
push_back_MyLinkedList(list, 30);
```

To search for a node in the linked list based on a lambda function, you can use the Full\_Position\_Serch\_##LinkedListType() function. This function takes the following arguments:

- list: The linked list to search.
- Befor: A pointer to a pointer to the node before the found node.
- Me: A pointer to a pointer to the found node.
- Me index: A pointer to an integer that will store the index of the found node.
- lamda: A lambda function that takes a pointer to a node as its argument and returns true if the node matches the search criteria.
- ...: Any additional arguments that the lambda function needs.

The following example shows how to use the

```
Full_Position_Serch_##LinkedListType() function to search for the first node in
the linked list that contains the value 20:MyLinkedList* list =
create MyLinkedList();
```

## Example usage:

```
#include <stdlib.h>
#include <stdio.h>
#include "linked_list.h"
int main() {
    // Create a new linked list.
    MyLinkedList* list = create_MyLinkedList();
    // Add some elements to the linked list.
    push_back_MyLinkedList(list, 10);
    push_back_MyLinkedList(list, 20);
    push_back_MyLinkedList(list, 30);
    // Search for the first node in the linked list that contains the value `20`.
    MyLinkedListNode* node = NULL;
    int index = Full_Position_Serch_MyLinkedList(list, NULL, &node, NULL,
SearchFor20, 20);
    if (index != -1) {
        // The node containing the value `20` was found at index `index`.
        printf("The node containing the value `20` was found at index %d.\n",
index);
    } else {
        // The node containing the value `20` was not found.
        printf("The node containing the value `20` was not found.\n");
    }
    // Destroy the linked list.
    destroy_MyLinkedList(list);
    return 0;
}
```