

## Quiz 5 - Monday

7 points

Nov 25, 2024

Name:

Student Number:

Create a Linked List inserting (`appendNode()`) and printing (`printList()`) the nodes, and freeing the allocated memory (`freeList()`).

**Example 1:**

```
// Main function
int main(){
    Node *head = NULL;

    // Inserting nodes
    appendNode(&head, "red");
    appendNode(&head, "blue");
    appendNode(&head, "green");

    // Printing the list
    printList(head);

    // Free the memory
    freeList(head);
}
```

- **Input:** `"red"`, `"blue"`, and `"green"` are input data. The size of this string can range from short to quite large.
- **Explanation:** The above code will print the following list:

```
green -> blue -> red -> NULL
```

### IMPORTANT NOTES:

- Adding a new data must be done with  $O(1)$  time complexity.
- Memory allocation is required for each node and for each piece of data stored as a string.