

Nicole Luong

Week 8

Linked Lists

The background features abstract, hand-drawn pink lines that form a grid-like pattern of squares and rectangles, some of which are tilted or skewed. The lines are thin and have a slightly irregular, sketchy quality.

**Before we
begin**

Assignment 2

Volunteers Please :)

Malloc

What is it?

What values do we give it?

What does it return?

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Malloc

In your groups, write out a function that:

- Takes in an int value
- Returns a pointer to a node containing the given value

This is the node structure we will be using in this tutorial

```
struct node {  
    int data;  
    struct node *next;  
};
```

Linked Lists

Linked Lists

In your groups, finish the `iterate_list()` function.

```
struct node {  
    int data;  
    struct node *next;  
};  
  
void iterate_list(struct node *head) {  
  
    // TODO  
    // Add code to iterate through the  
    // given linked list  
  
}
```

Linked Lists

In your groups, finish the `iterate_list()` function.

```
struct node {  
    int data;  
    struct node *next;  
};  
  
void iterate_list(struct node *head) {  
  
    // TODO  
    // Add code to iterate through the  
    // given linked list  
  
}
```

- How can you modify this function so that it returns a pointer to the last node?
- Are there extra cases to account for?

Linked List

In your groups, finish the `insert_3rd()` function

```
struct node {
    int data;
    struct node *next;
};

// Returns the head of the list
struct node *insert_3rd(struct node *head) {
    struct node *new_node = create_node(5);

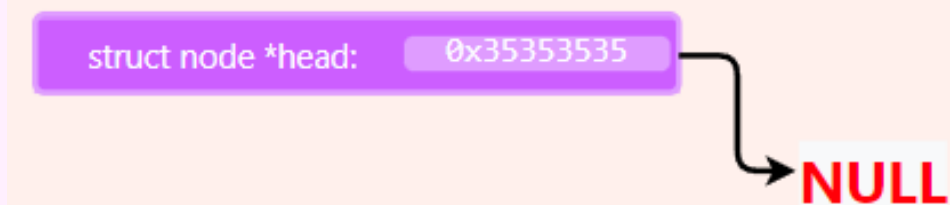
    // TODO
    // Add code to insert new_node as the
    // third element in the list

    // If there are less than 2 items in
    // the list, insert at the end
}
```

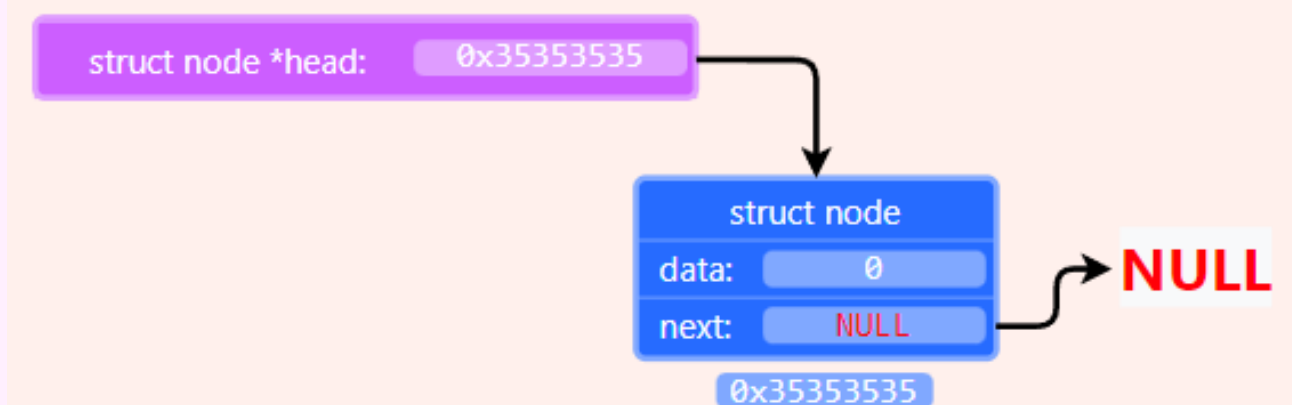
Hint: Make a variable to track of what number item you are currently at.

Cases to consider:

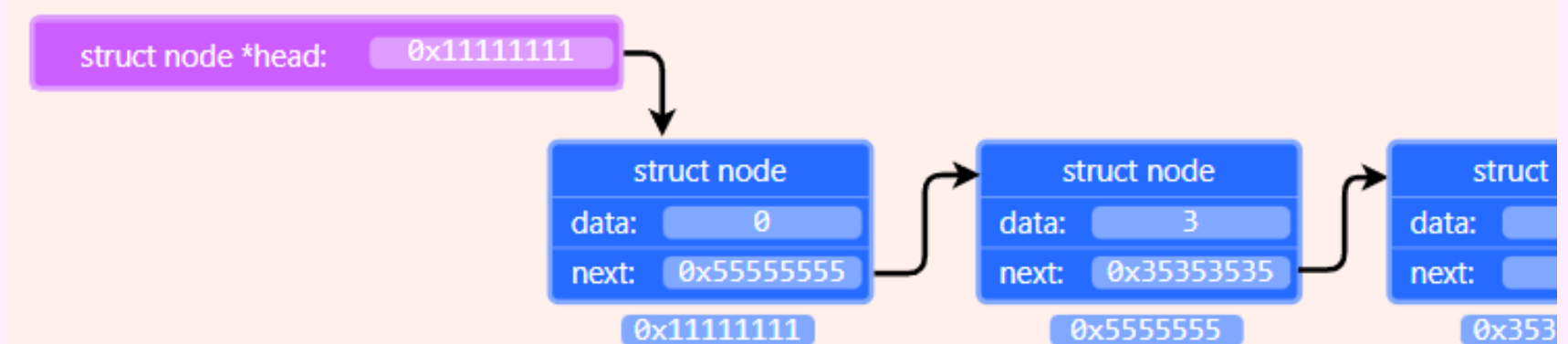
1. An empty list:



2. A list of length 1:



3. A longer list:



A decorative graphic consisting of several thick, light pink lines that intersect and loop across the left side of the slide, creating a stylized, abstract pattern.

Lab Time!

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