



EECS22 Lab Week9

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Assignment 4

- The most intense assignment so far. 
- Most of you did a great job!! 
- It is challenging to make memory usage correct
 - malloc() and free() shall appear in pairs
 - Understand the difference and relation between pointers and the allocated memory spaces (e.g. size, scope, etc.)
 - Keep valid pointers to the allocated memory before freeing it.
- Resize image function
 - Scan the resized image
 - Use the mapping function to get the corresponding pixel (>100) or pixels(<100) for the color

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Learning Outcome

- Understand the input and output of assignment5.
- Understand the representation of a movie in a C program.
- Understand the difference and relation between YUV and RGB color spaces.
- Understand double-linked list and its basic operations.
- Understand the relation between images and movies.

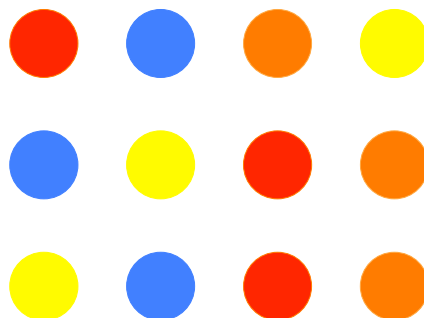
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Jigsaw Activity on Assignment 5

Step1: Work on the question belongs to your color group individually. (5 minutes)



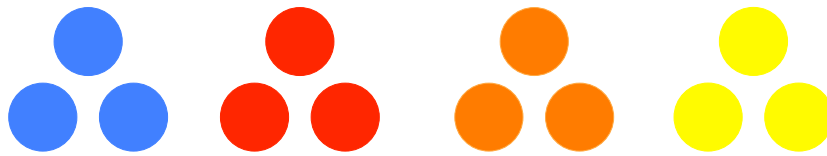
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Jigsaw Activity on Assignment 5

Step2: Share your answers with your classmates who are in the same color group. (5 minutes)



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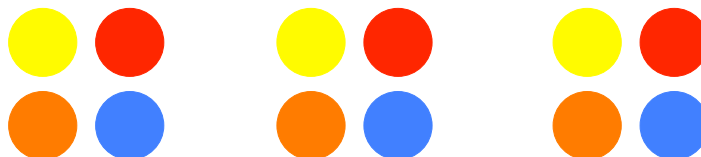
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Jigsaw Activity on Assignment 5

Step3: Now you are the expert on the question you have been working on. Please form into groups of 4, (1 blue, 1 red, 1 green, 1 yellow). Tell your group partners how to solve the question you've been working on! (20min)

Please Write down your answers as a group on the flip chart paper!!



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Question1 [Yellow Group]

- This is a group of questions for the *MovieLab* program:
 - What is the input and output for this program?
 - What is the relation between an image and a movie? How do we represent a movie in computer?
 - Let's take a look at the implementation, what FileIO functions do we have for this assignment? How can we use these functions to build the movie in our program?



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Question2 [Blue Group]

- This is a group of questions for color spaces:
 - Which color space are we going to use? Please compare this color space with the RGB color space that we were using for our previous assignment, same vs. difference?
 - How to do the color space conversion? Could you please write down the conversion equation? What shall we take care of to implement the color space conversion function?
 - Why do we need color space conversion for this assignment?



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Question3 [Blue Group]

- This is a group of questions for double-linked list:
 - What is a double-linked list? Please draw the diagram for a double-linked list with 5 entries.
 - How many structures do we need to implement a double-linked list? What type of member variables do we need for each structure? Could you please write the definition of these structures?
 - How to add an entry to a double-linked list? How to reverse a double-linked list?



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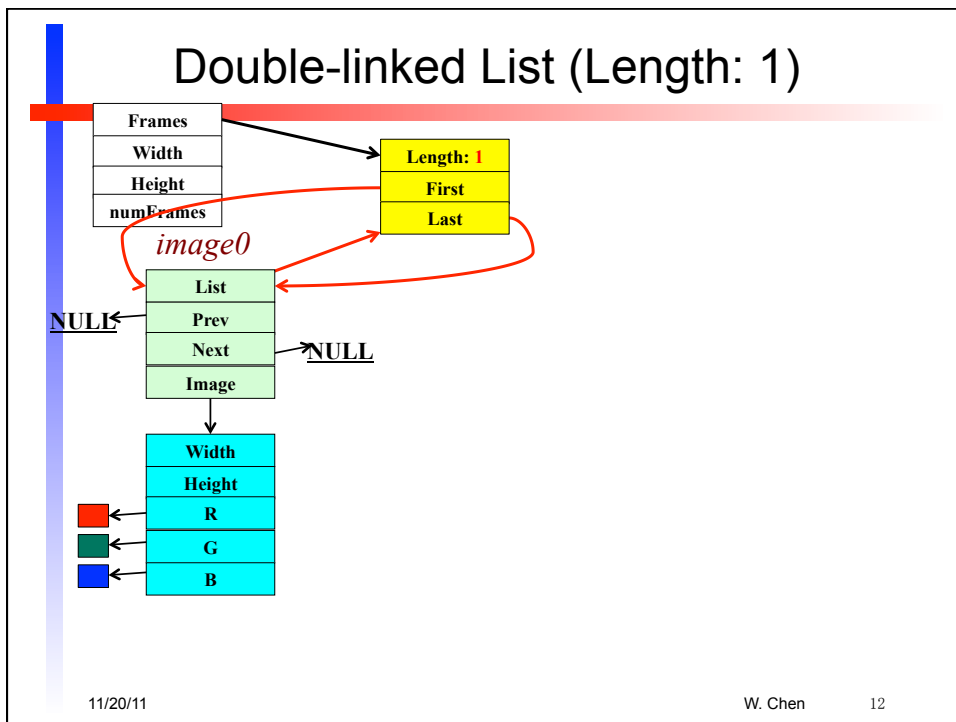
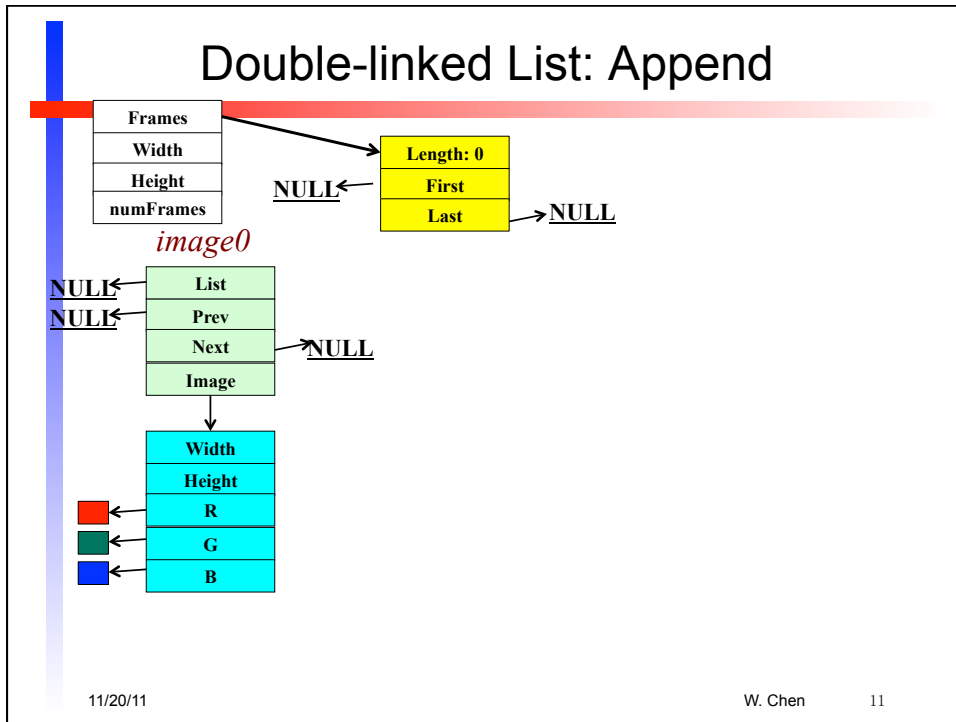
Double-linked List (empty)

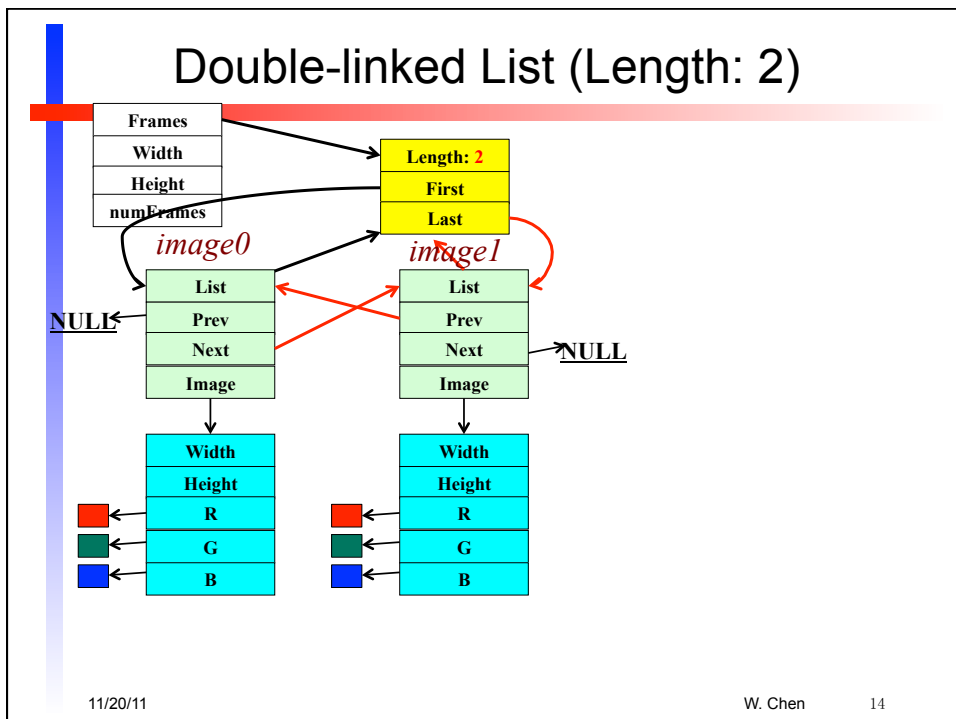
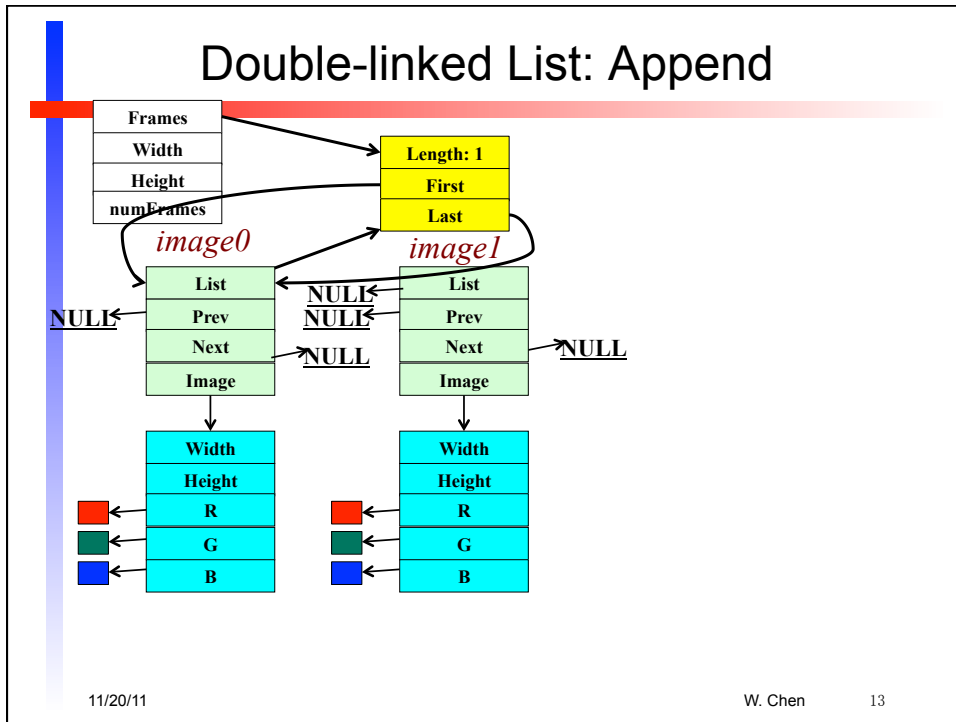


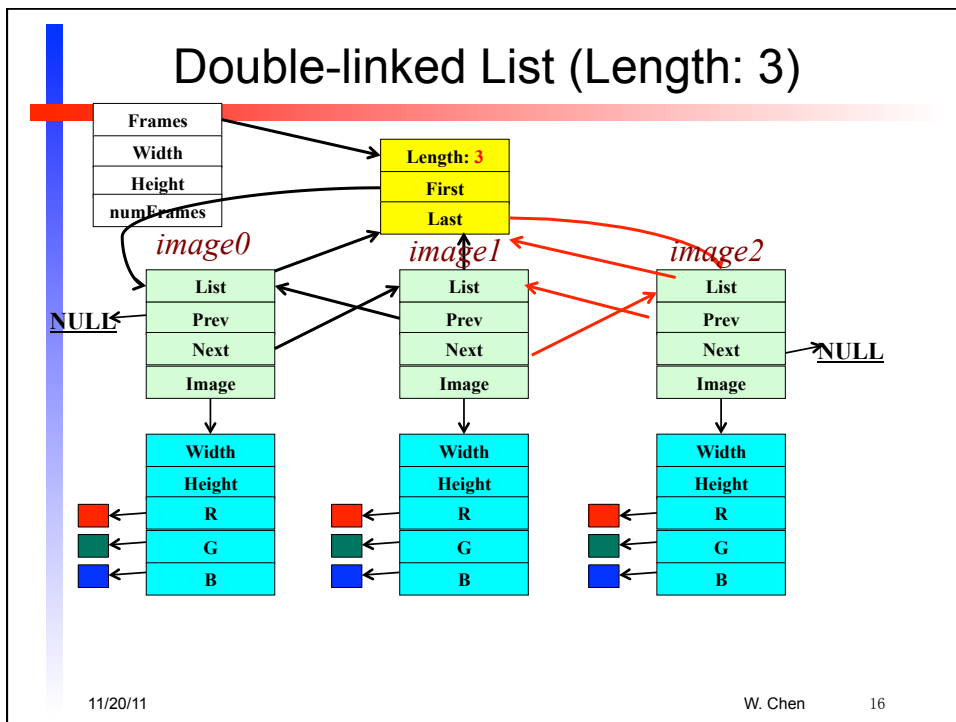
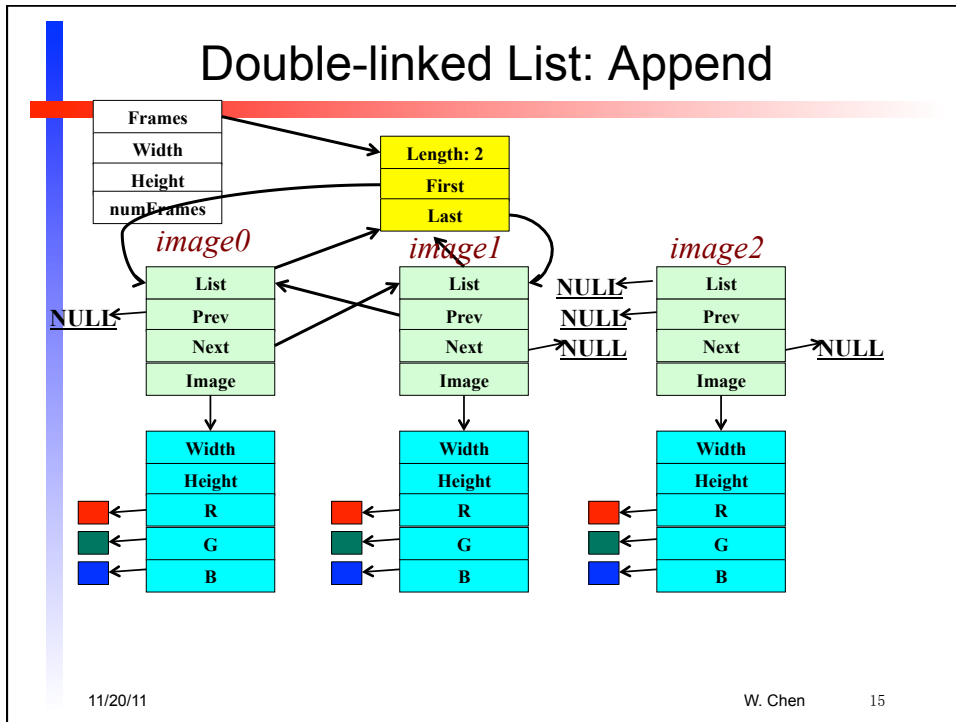
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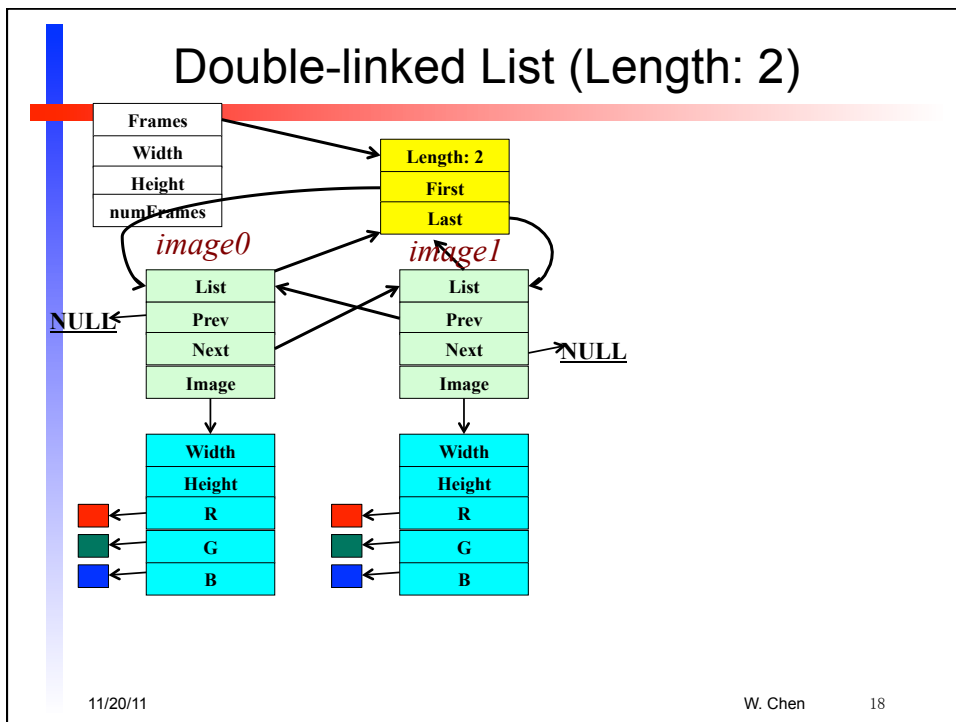
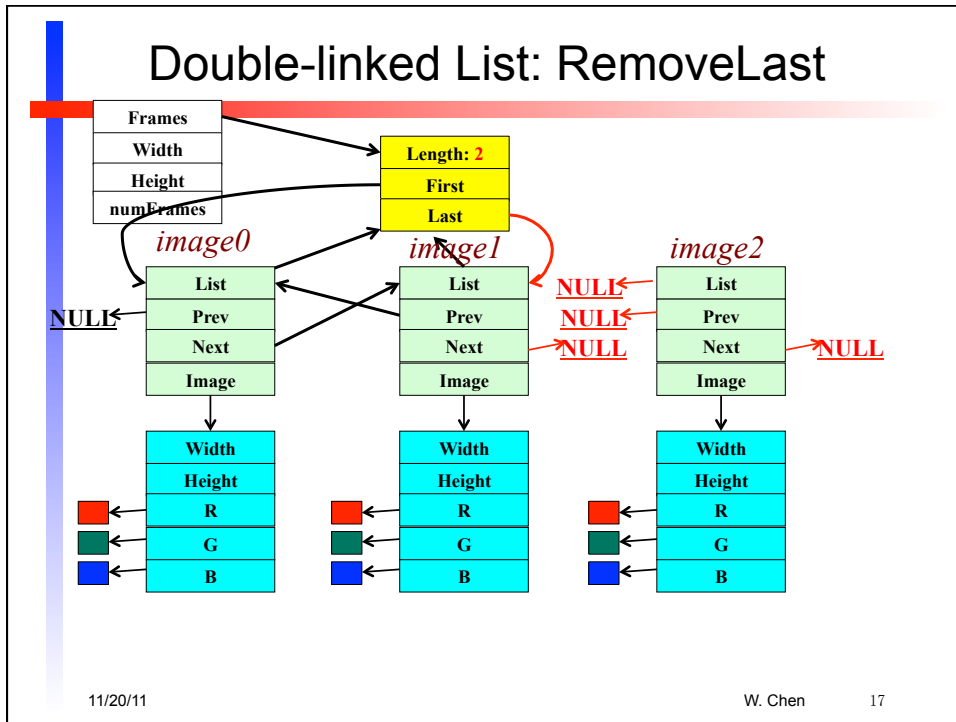
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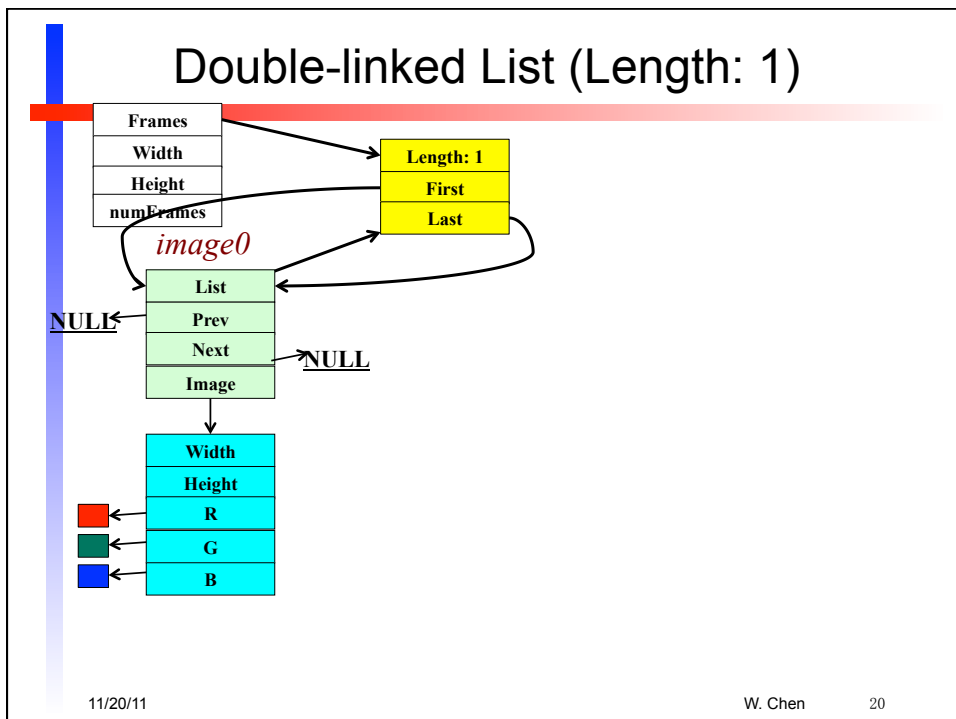
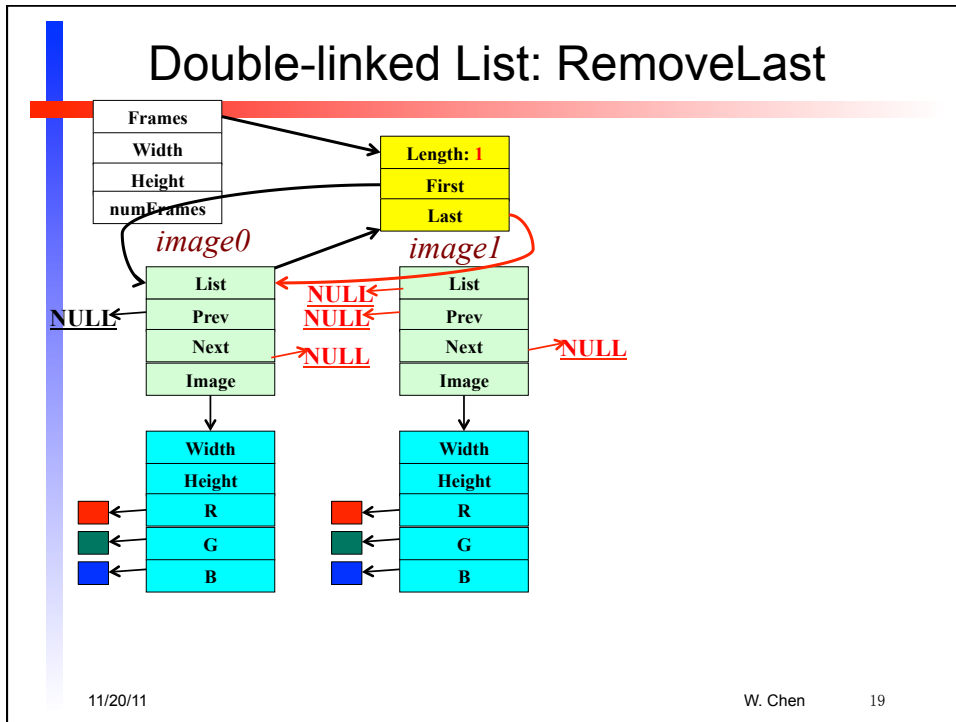
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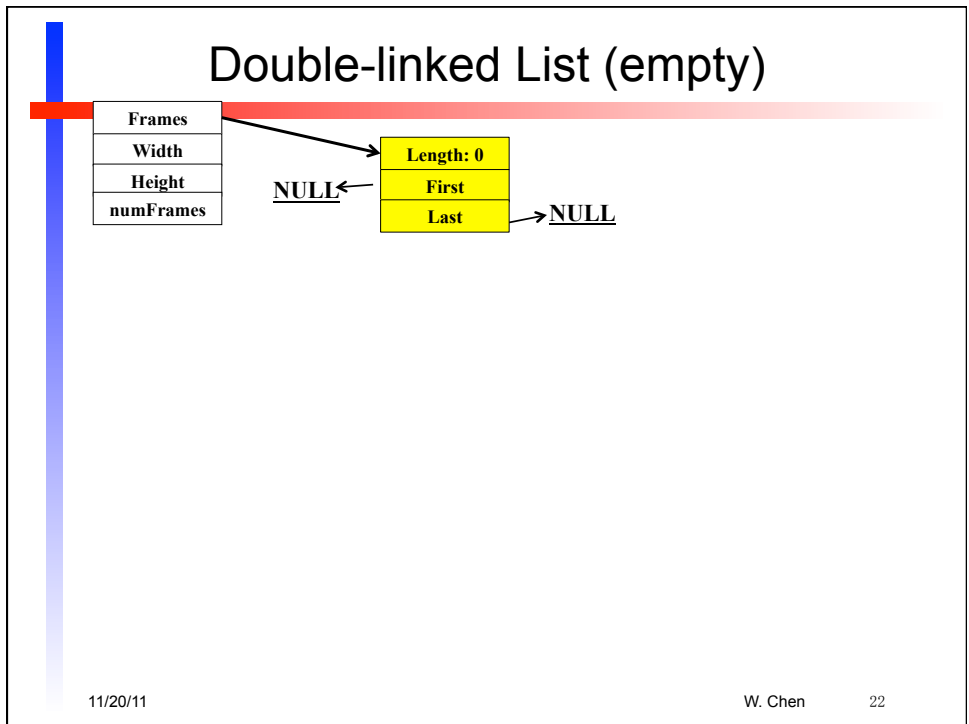
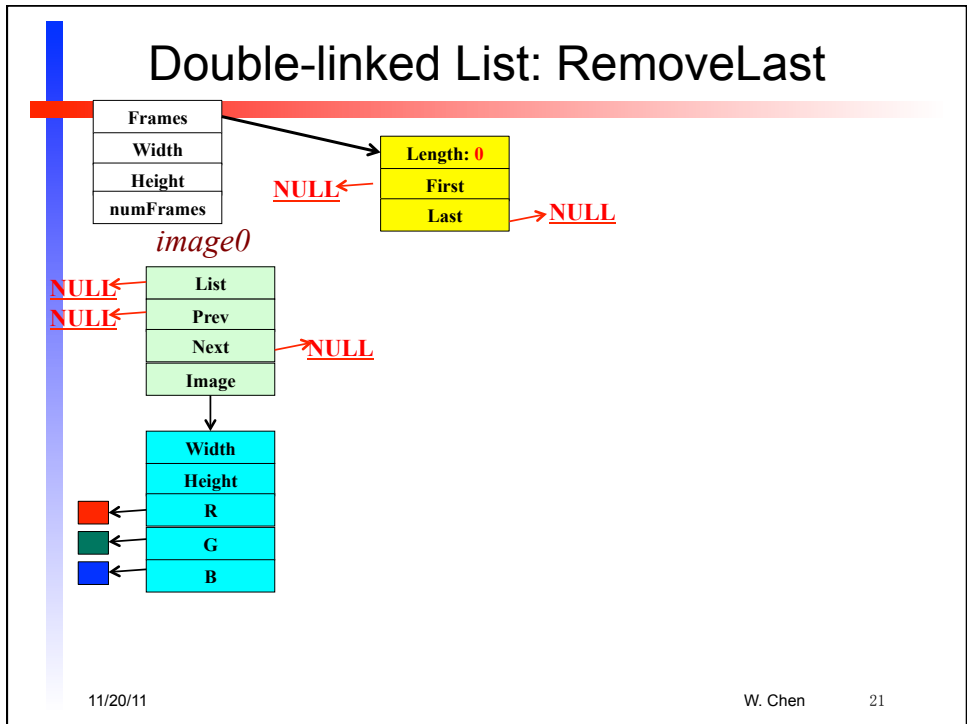


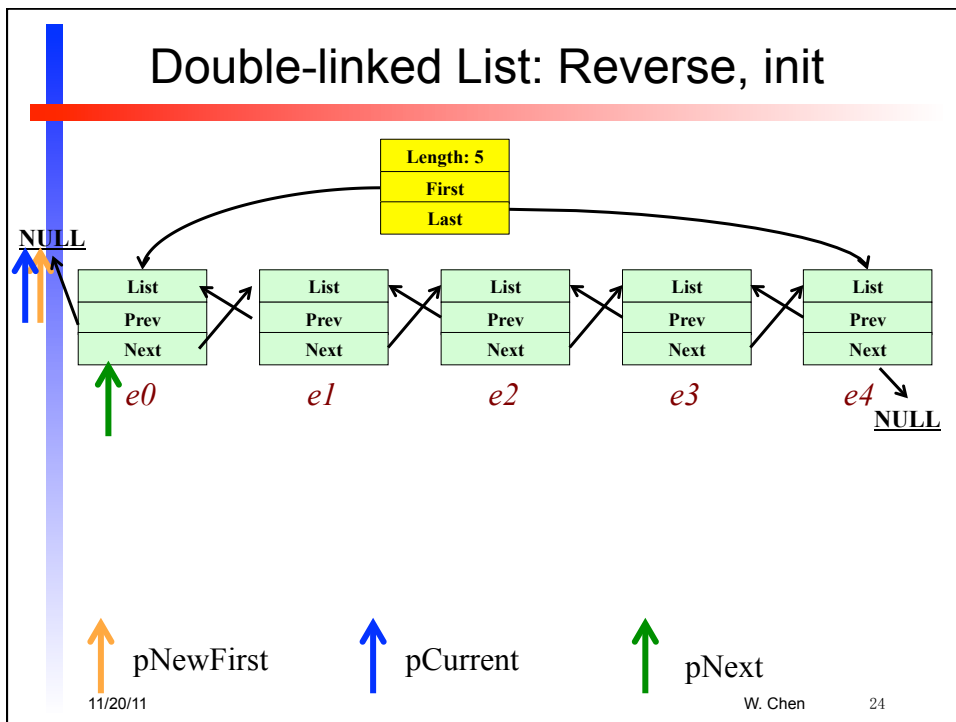
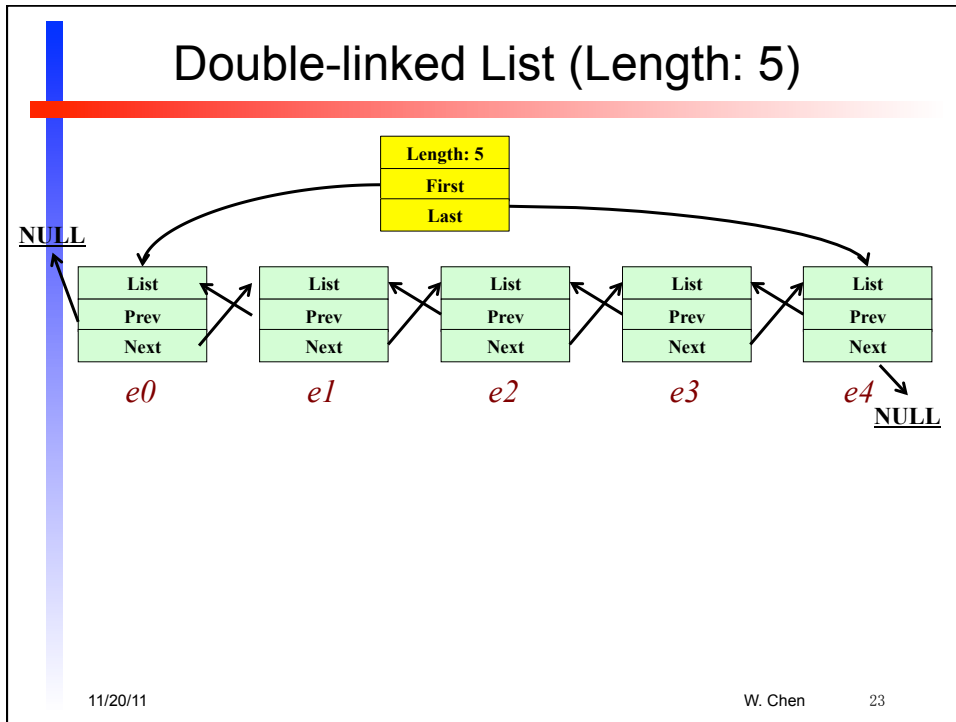


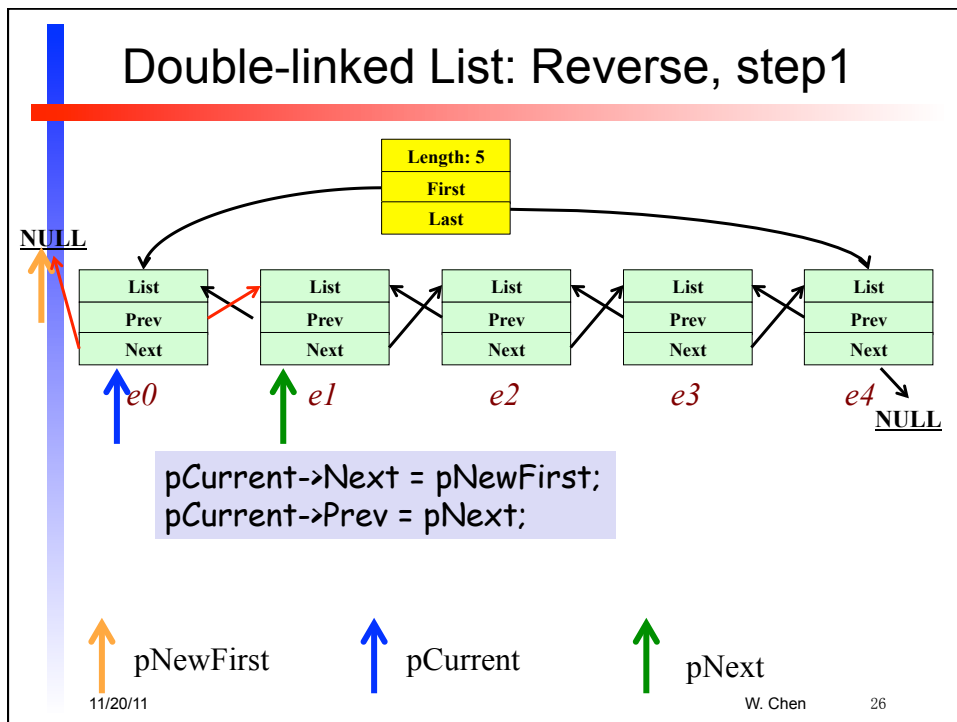
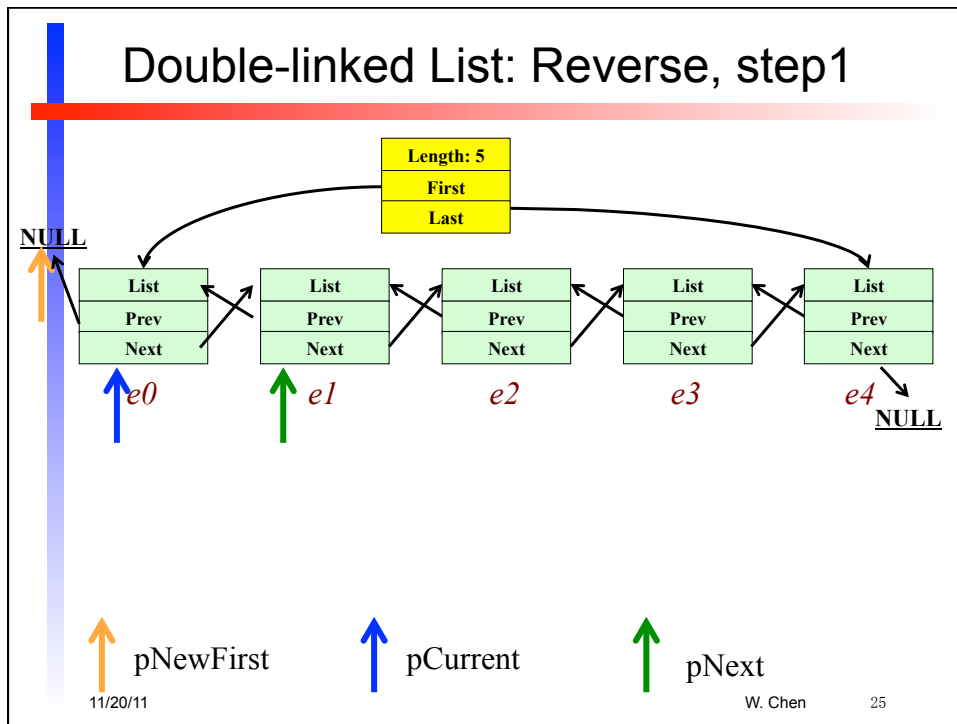


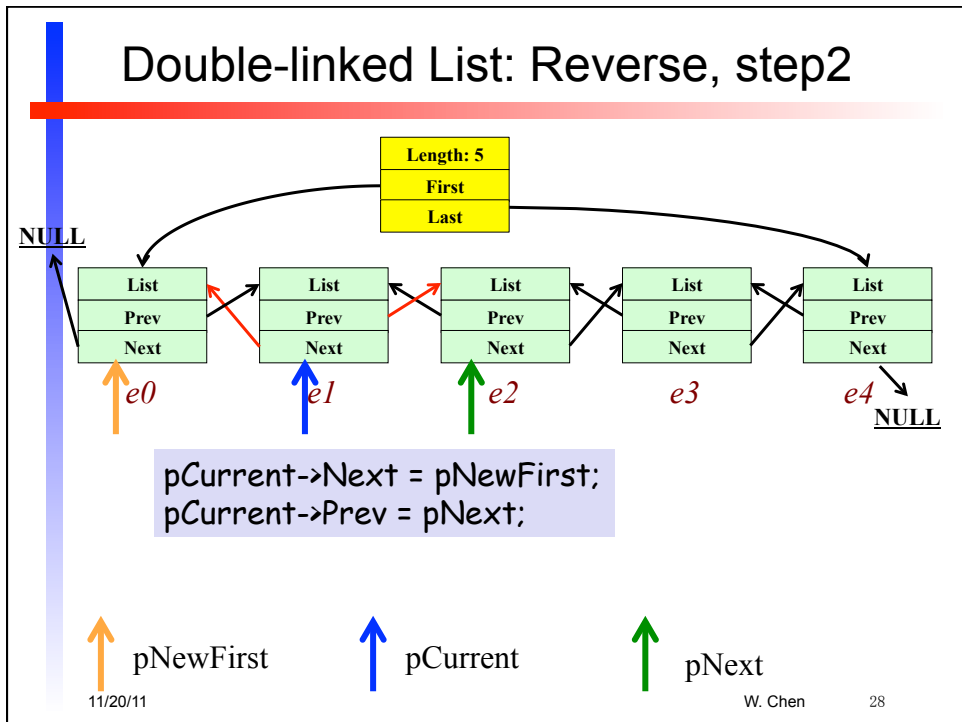
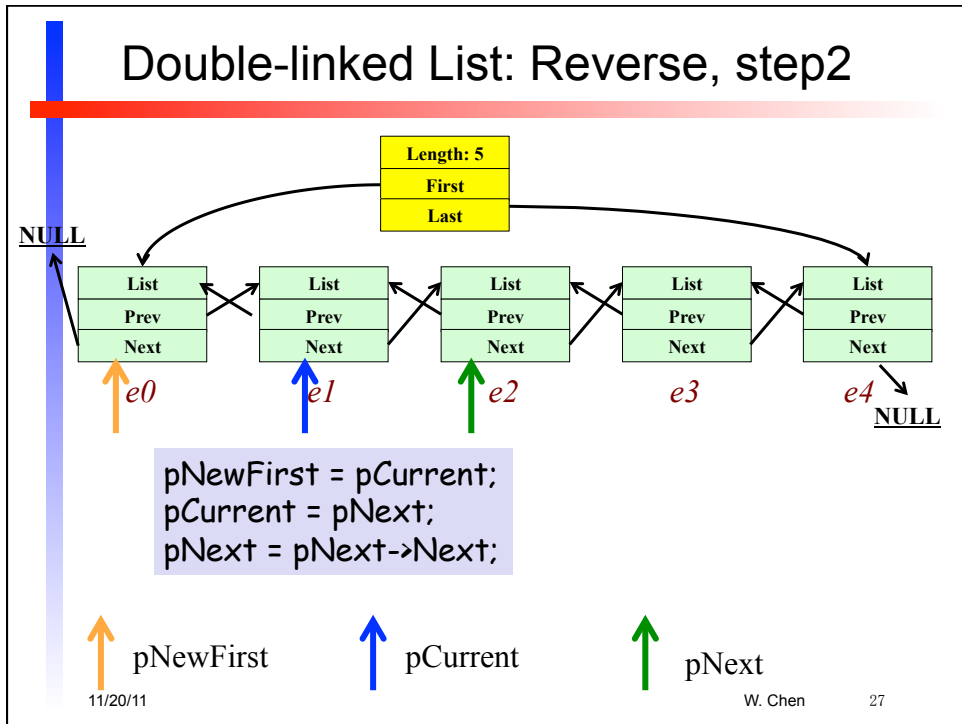


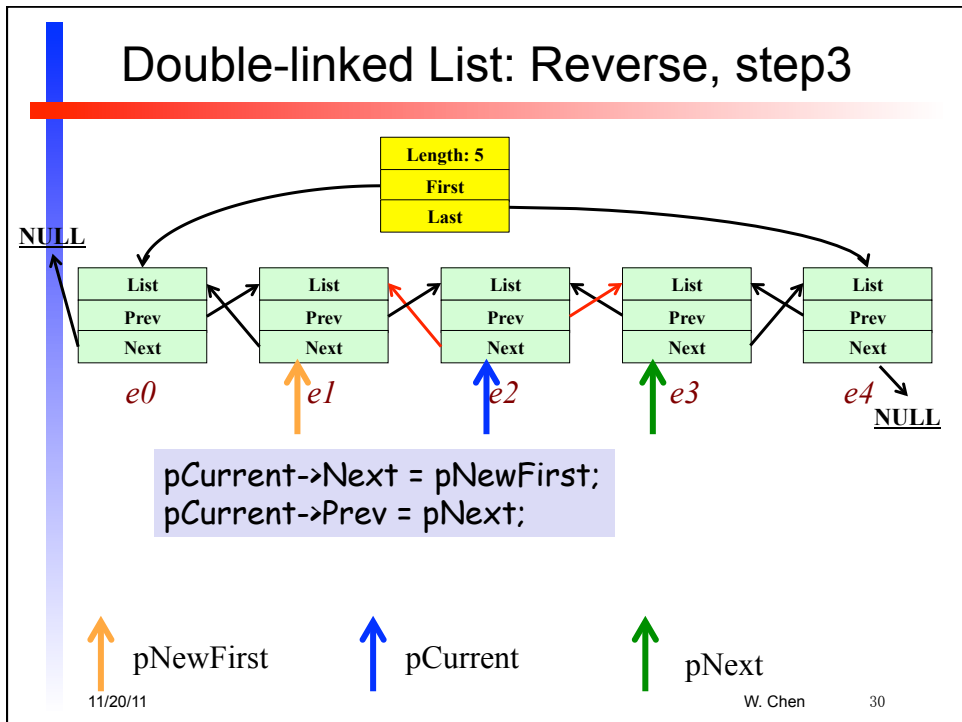
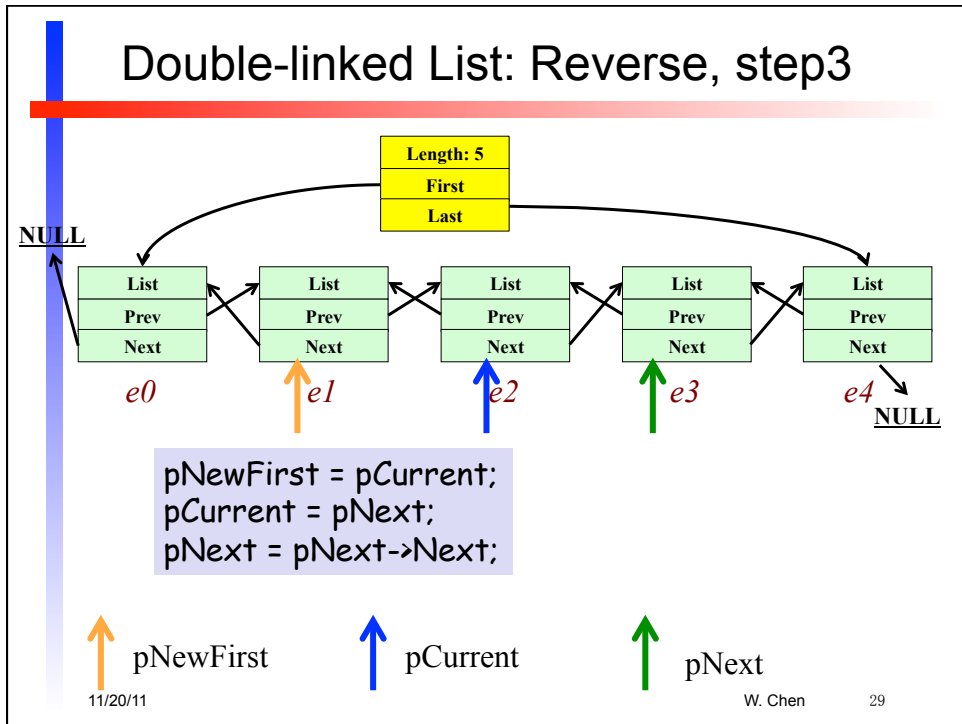


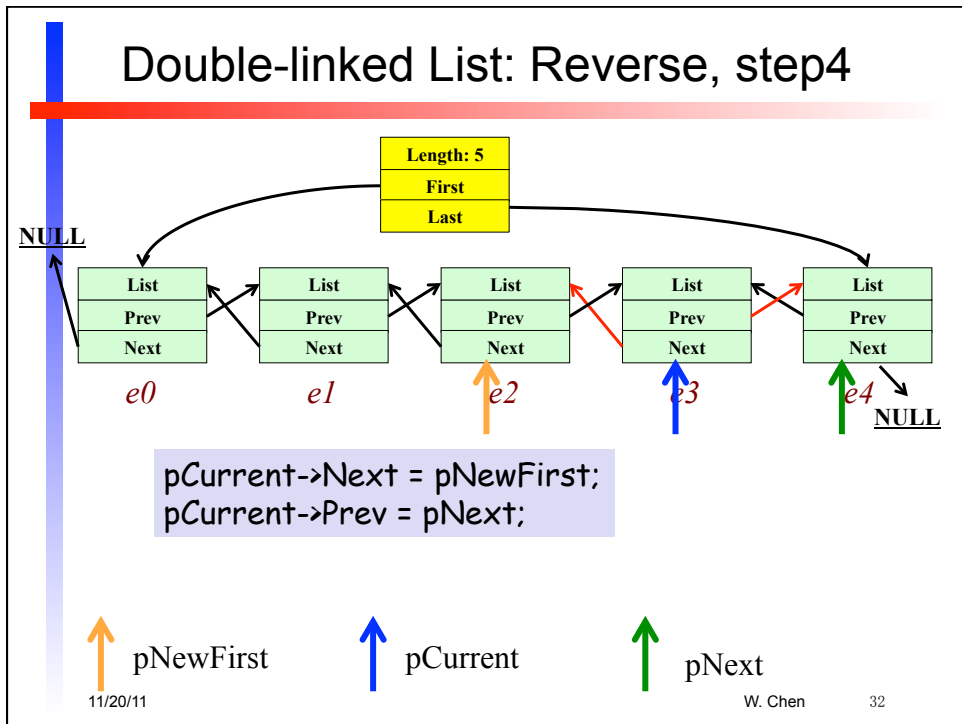
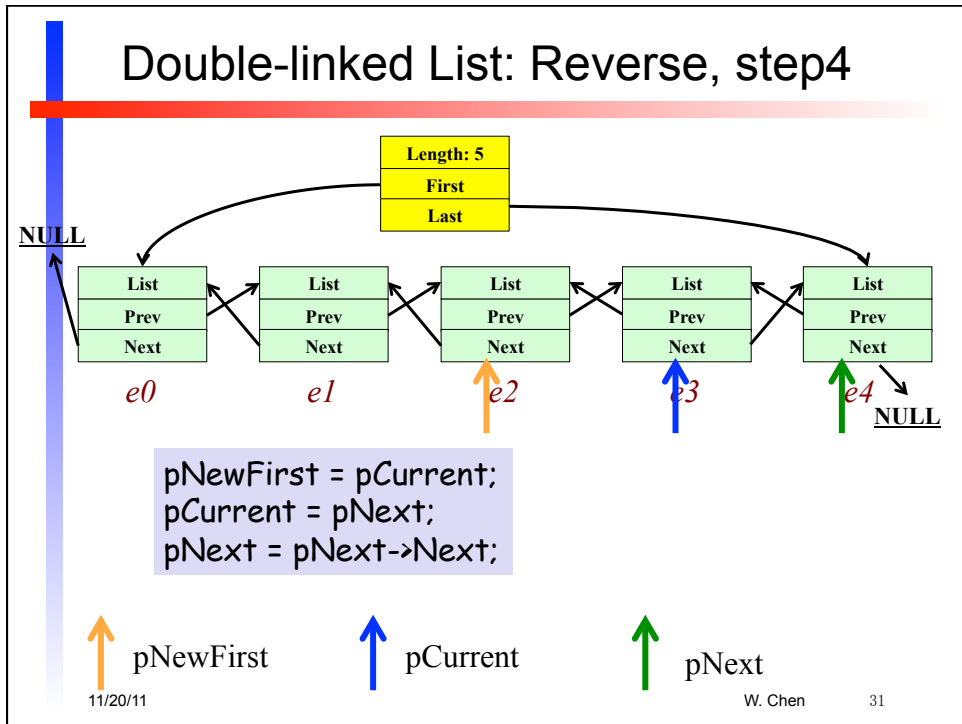


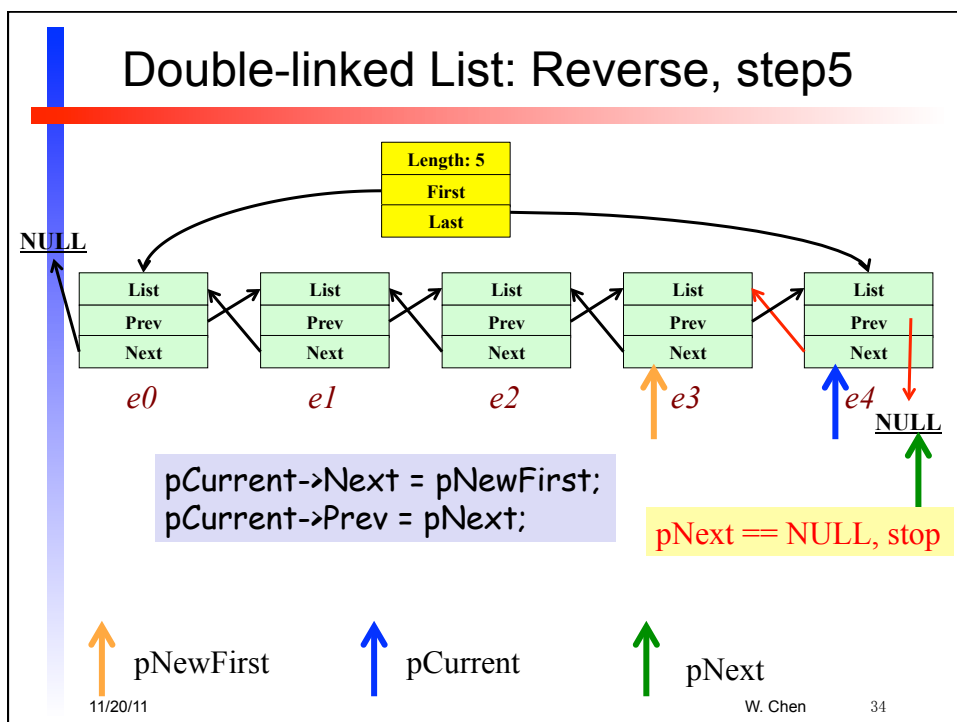
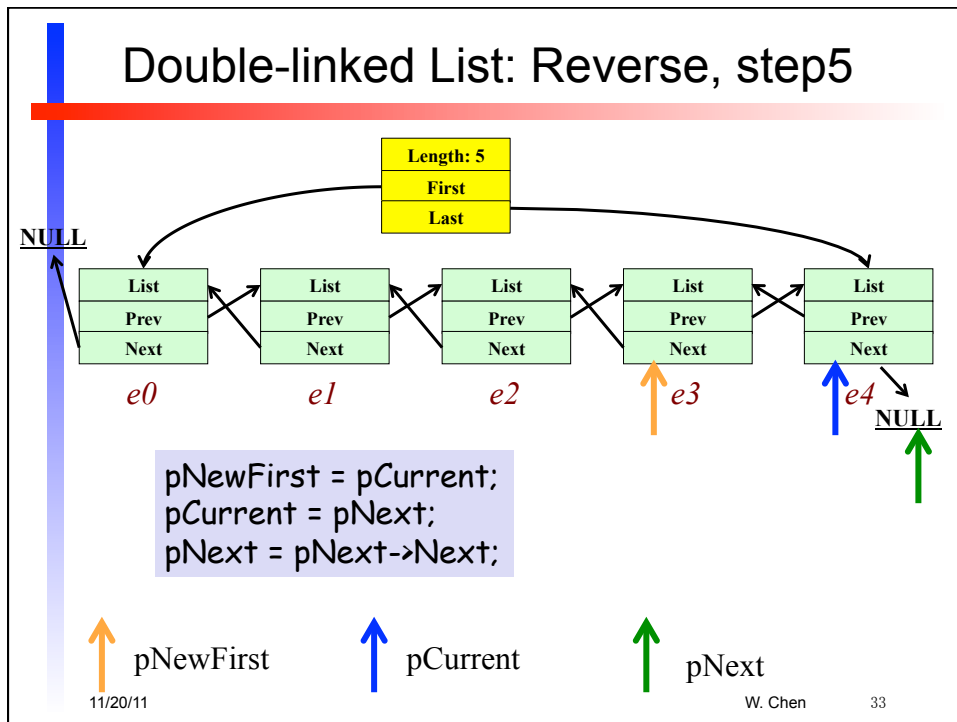


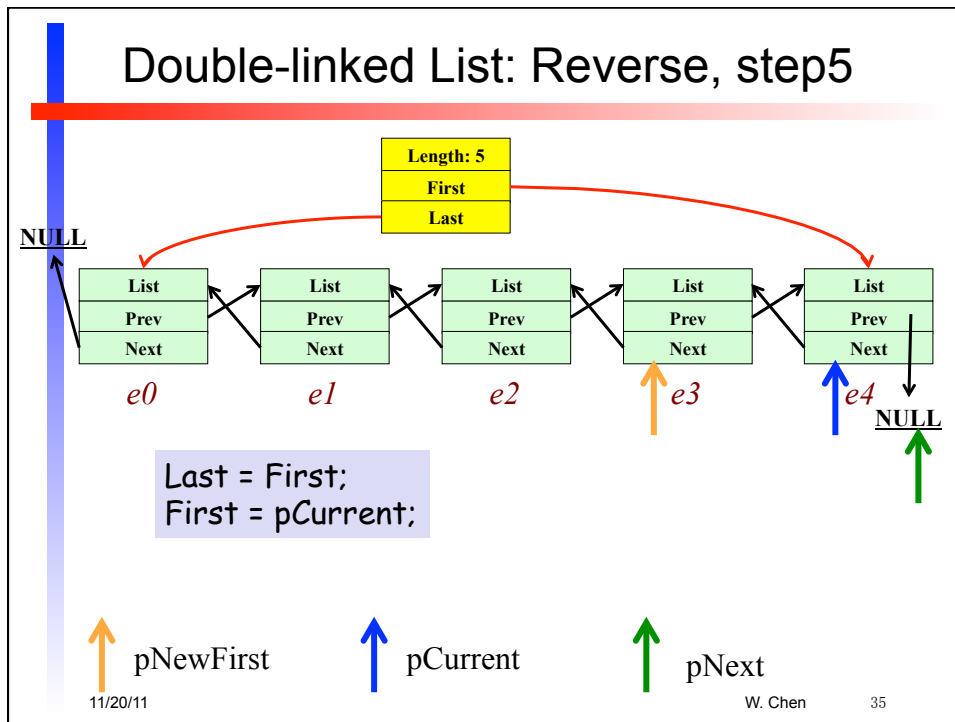












Question4 [Red Group]

- This is a group of questions for the operations we are going to perform on the movie:
 - How can we relate the image with the movie?
 - How can we reuse our DIP functions in our previous assignments for this assignment?
 - How to perform DIP operations for the images onto the movies? How would you implement this in C?

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