
Stack Data Structure in One Video | Java Placement Course
STACK
Push 0(1)
Pop 0(1)
Peek 0(1)
3:49 / 36:44 • Stack Introduction >
Scroll for details
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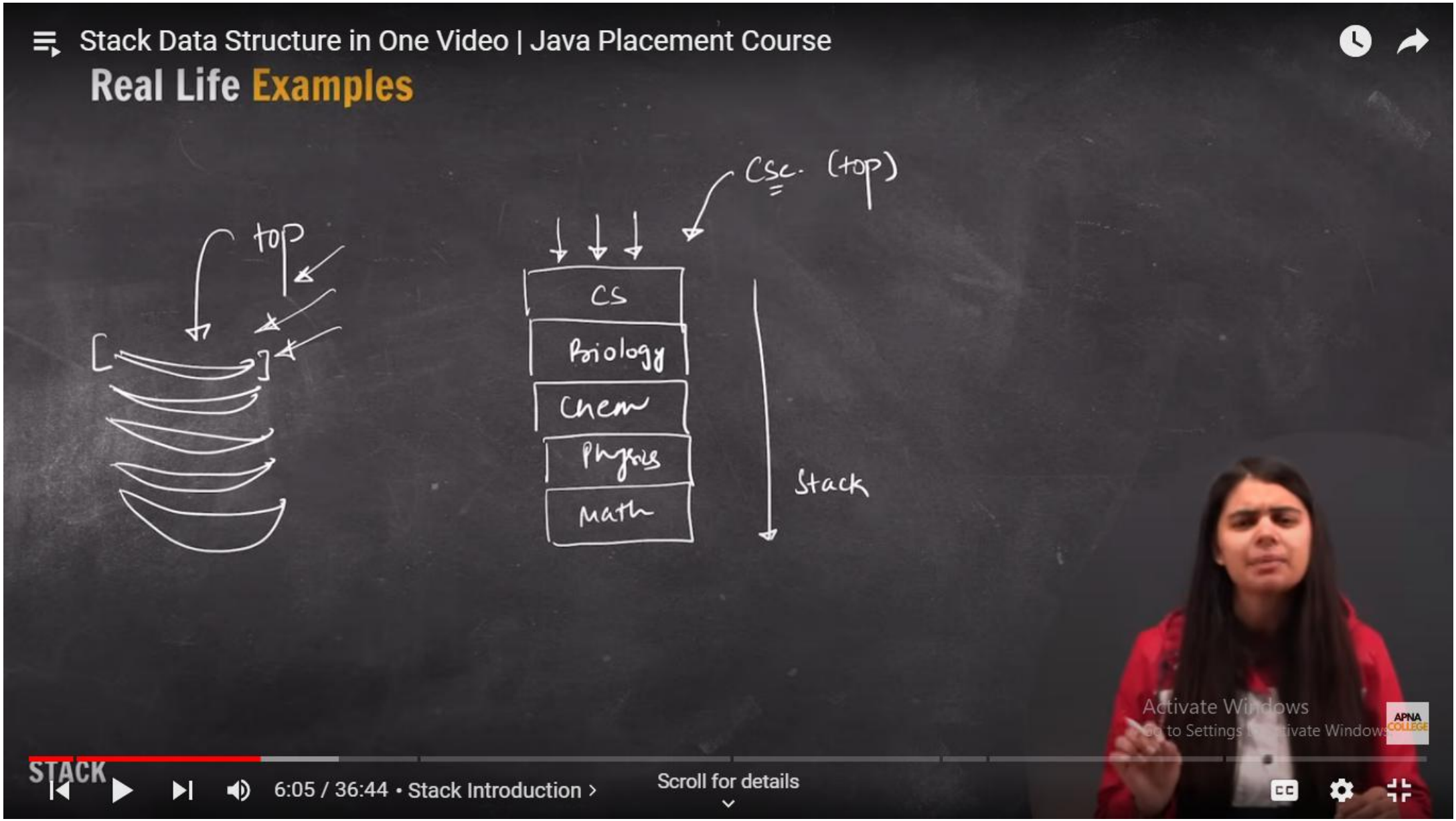
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Real Life Examples
top
Csc. (top)
CS
Biology
Chem
Physics
Math
Stack
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STACK
6:05 / 36:44 • Stack Introduction ›
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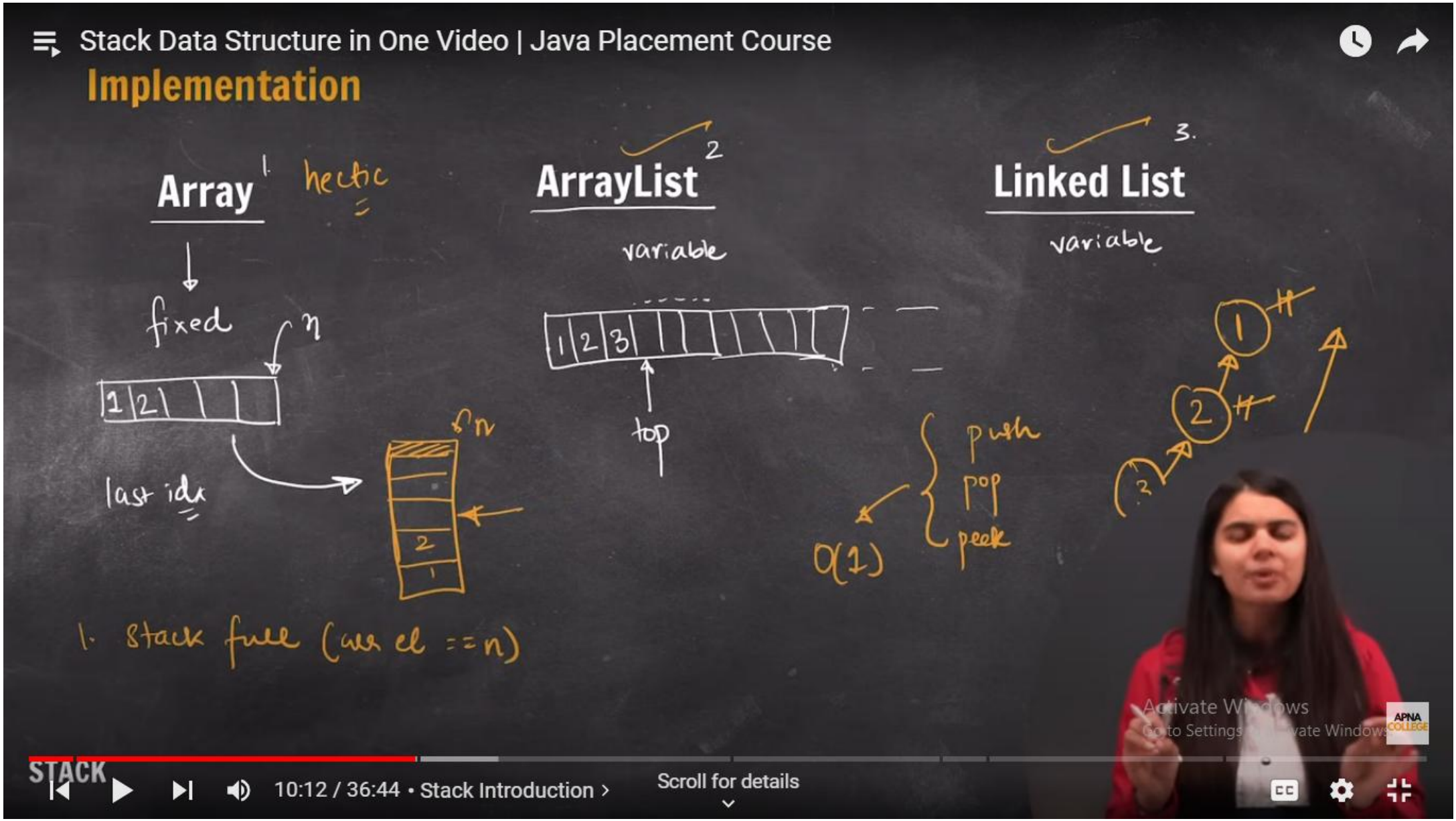
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Implementation
Array
1.
hectic
fixed
n
1 2
last idx
2
1
1. Stack full (curr el == n)
ArrayList
2
variable
1 2 3
top
push
pop
peek
O(1)
Linked List
3.
variable
1
2
3
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STACK
10:12 / 36:44 • Stack Introduction ›
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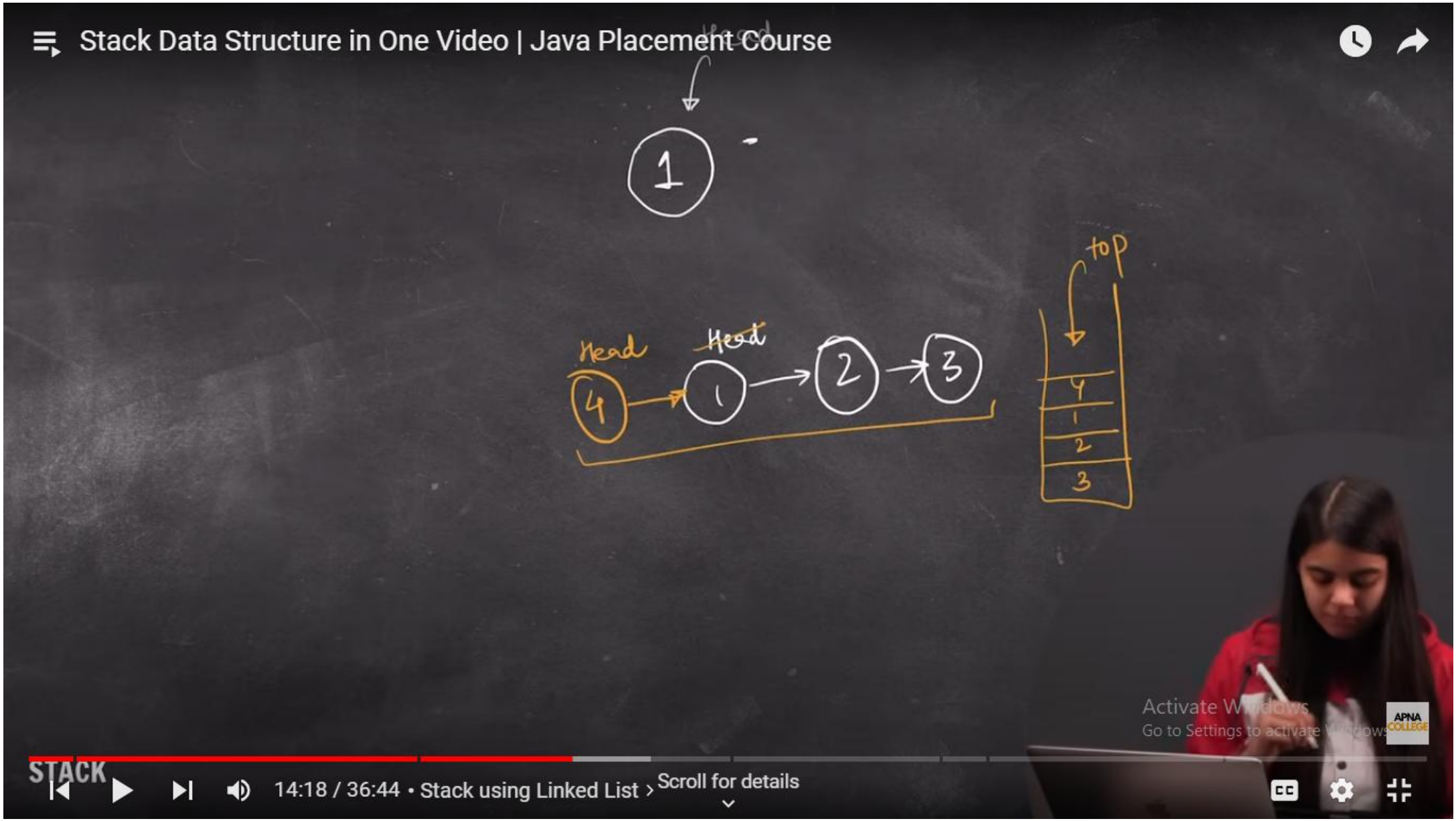
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1
Head
Head
4
1
2
3
top
4
1
2
3
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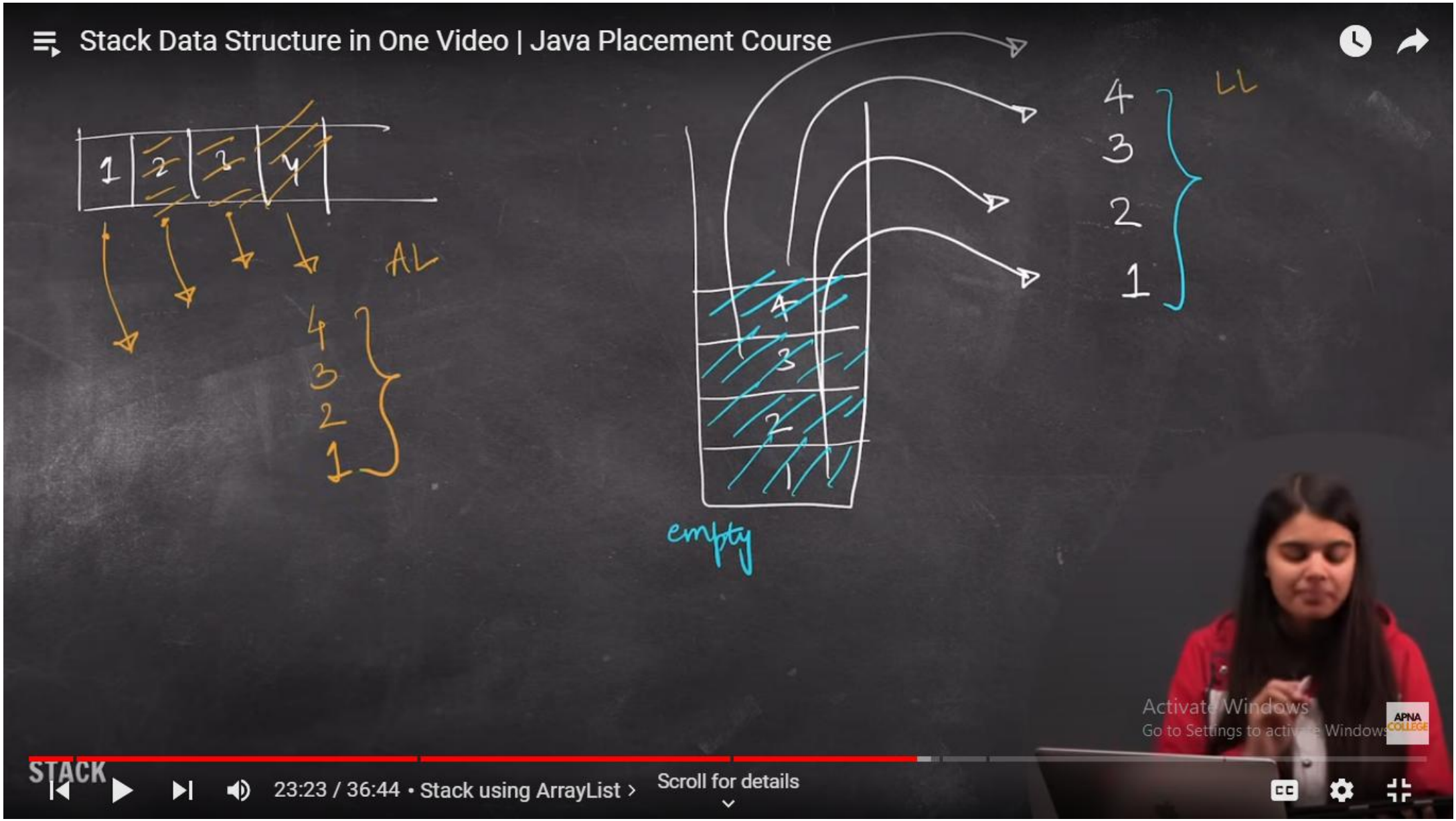
STACK
14:18 / 36:44 • Stack using Linked List
Scroll for details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1
2
3
4
AL
4
3
2
1
4
3
2
1
empty
4
3
2
1
LL
STACK
23:23 / 36:44 • Stack using ArrayList ›
Scroll for details
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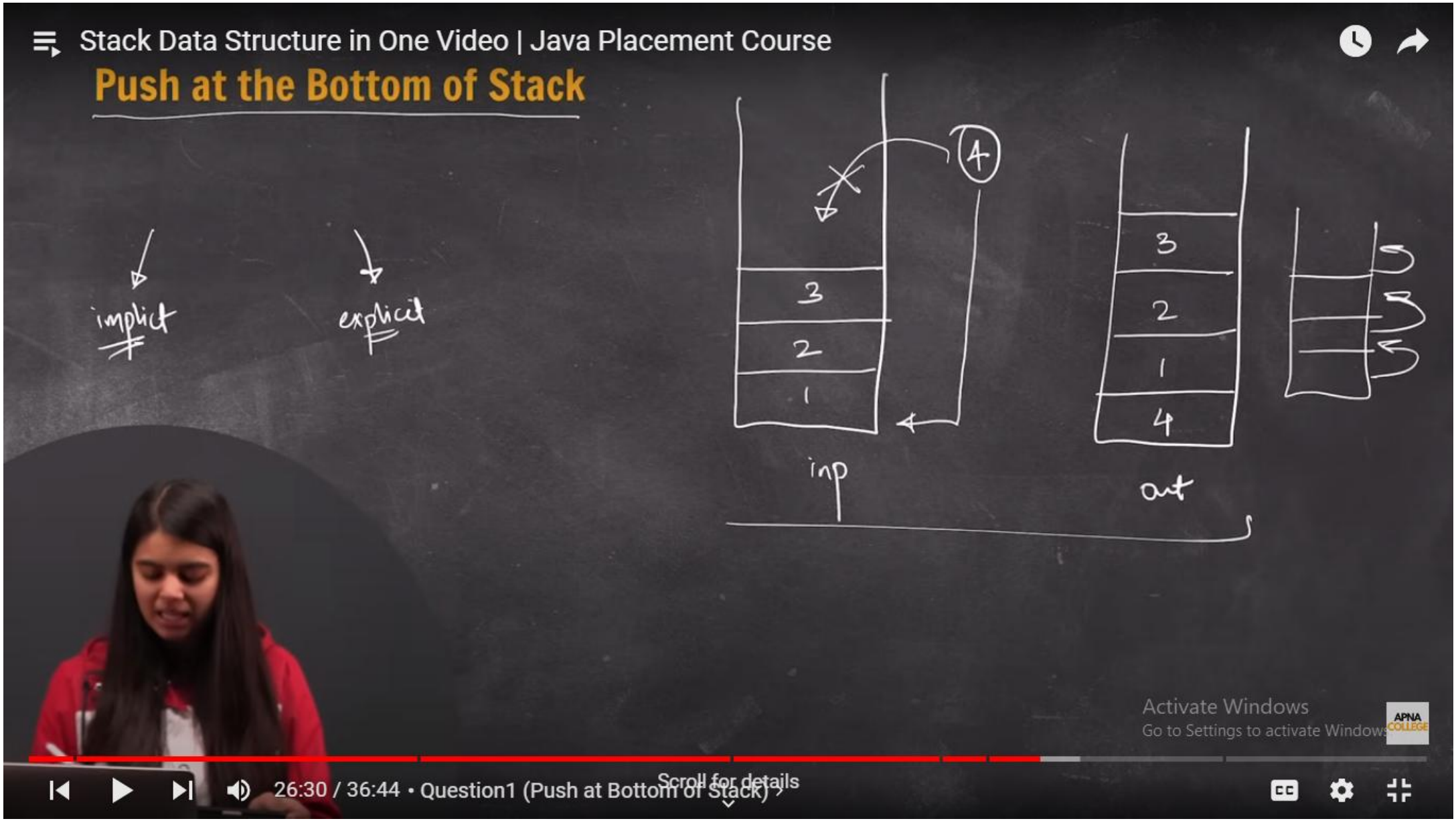
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Push at the Bottom of Stack
implict
explicit
3
2
1
4
inp
out
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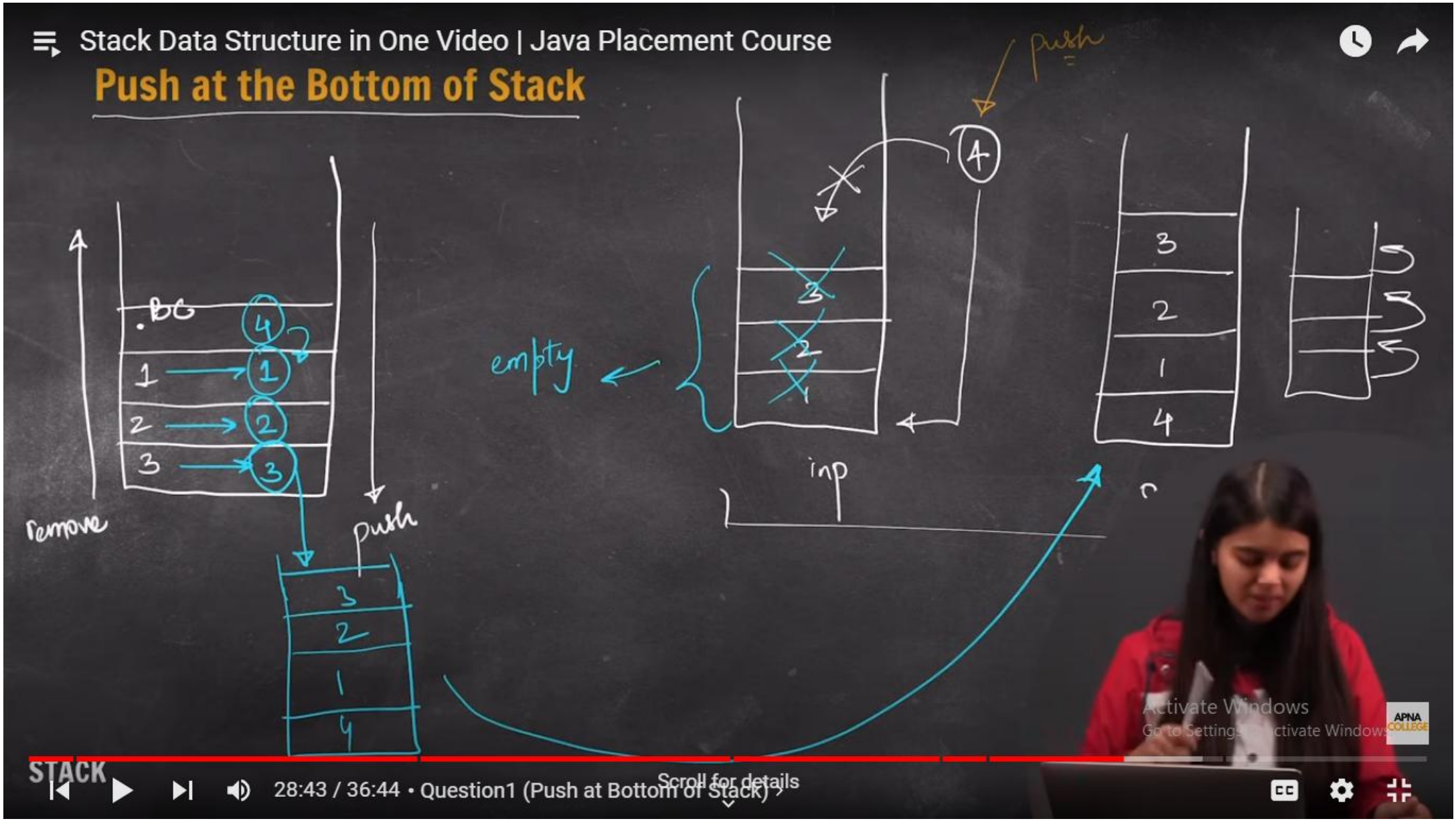
26:30 / 36:44 • Question1 (Push at Bottom of Stack)
Scroll for details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Push at the Bottom of Stack
push
4
3
2
1
4
empty
inp
3
2
1
4
remove
push
3
2
1
4
STACK
Activate Windows
Go to Settings to activate Windows.
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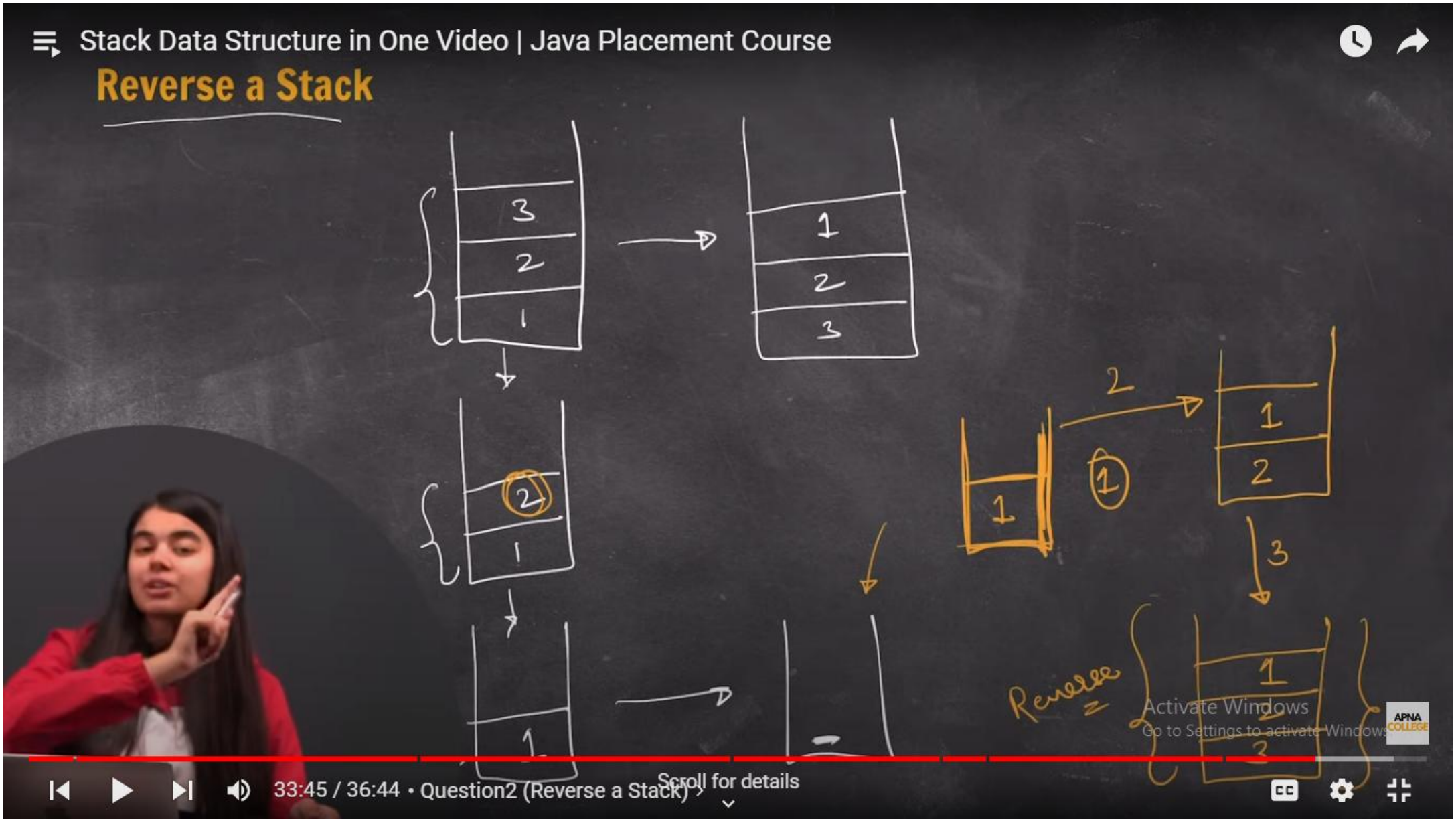
28:43 / 36:44 • Question1 (Push at Bottom of Stack)
Scroll for details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Reverse a Stack
3
2
1
1
2
3
2
1
2
1
1
2
1
1
2
3
Reverse
1
2
3
Activate Windows
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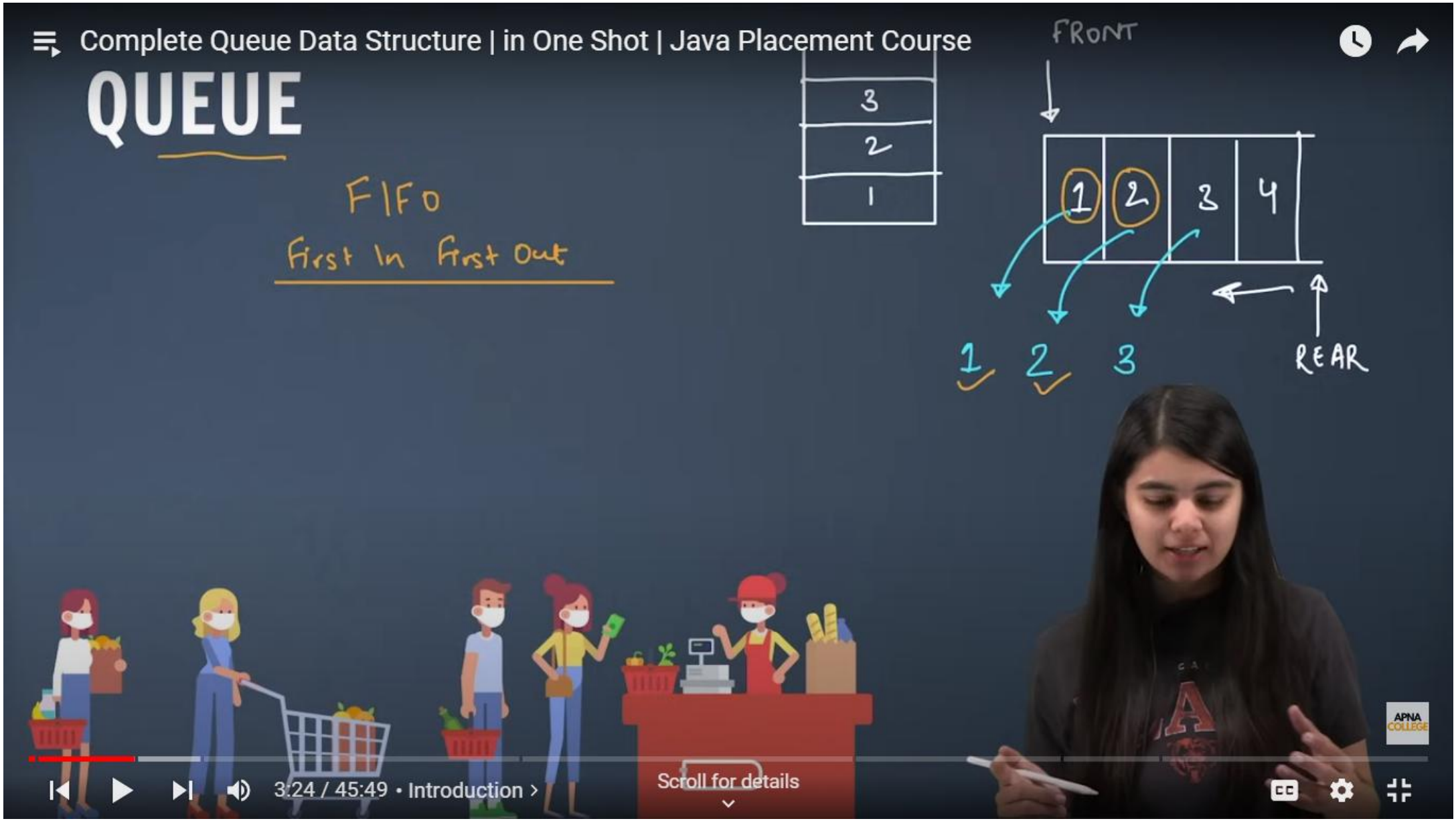
33:45 / 36:44 • Question2 (Reverse a Stack)
Scroll for details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QUEUE
FIFO
First In First Out
3
2
1
FRONT
1
2
3
4
1
2
3
REAR
3:24 / 45:49 • Introduction
Scroll for details
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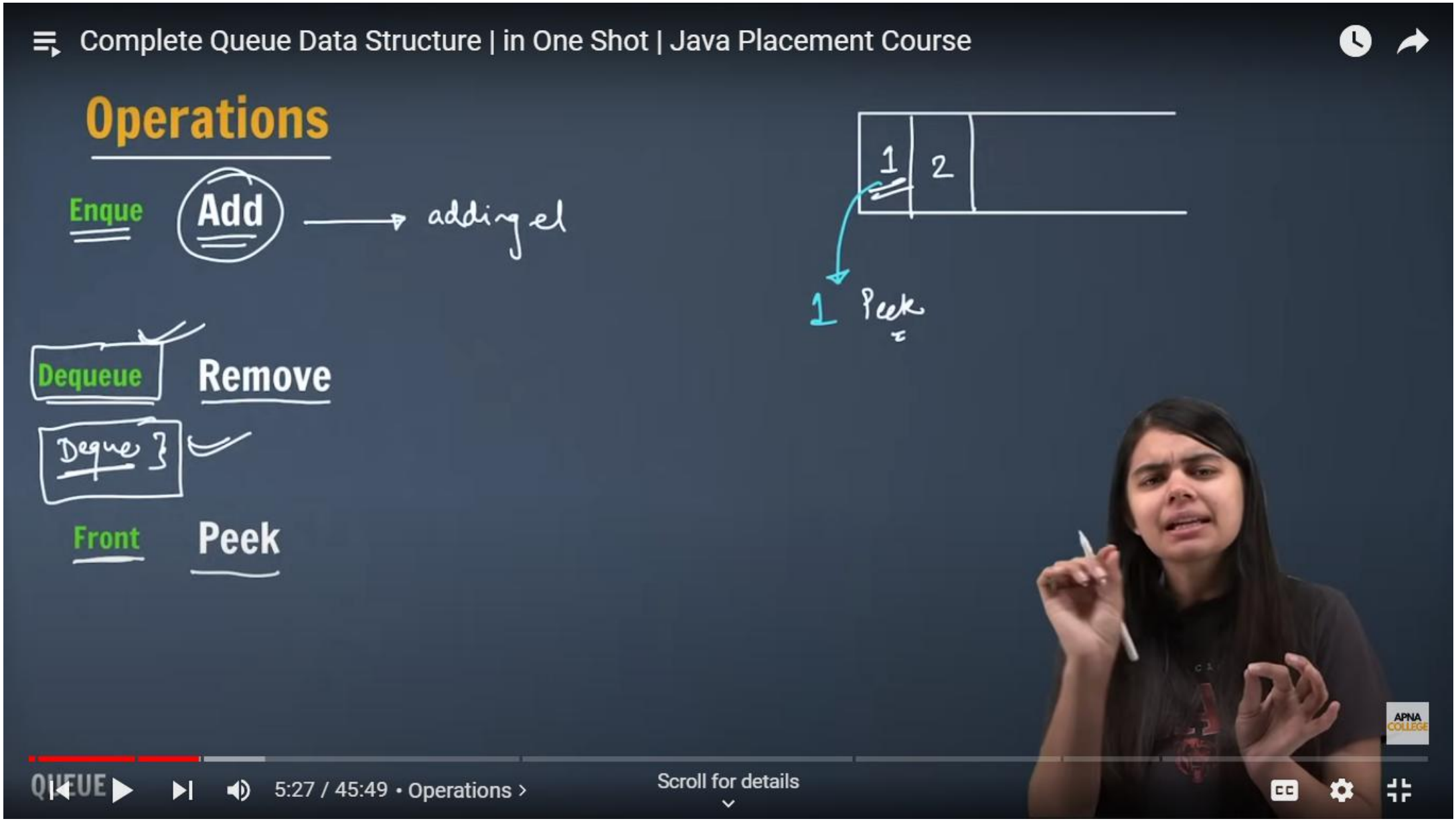
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Operations
Enque
Add
adding el
1
2
1 Peek
Dequeue
Remove
Deque]
Front
Peek
QUEUE
5:27 / 45:49 • Operations ›
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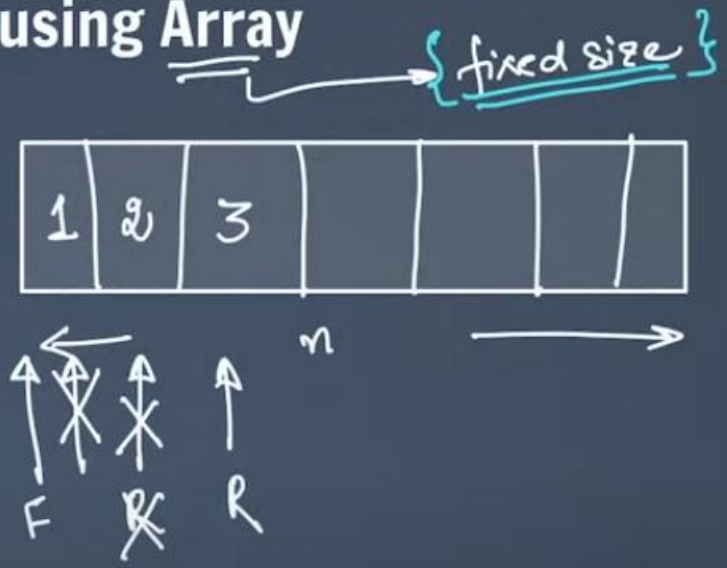
Implementation 1

Queue using Array



(i) size = n

⇒ ADD

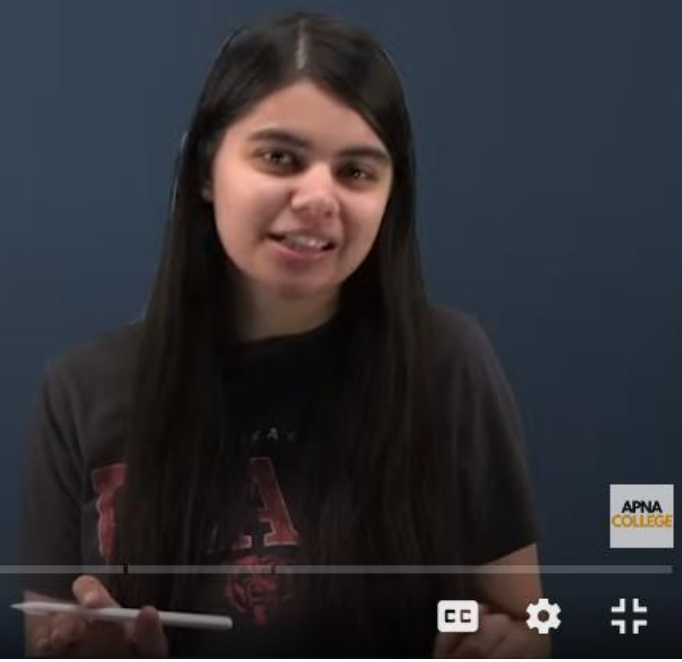
full?

F ⇒ 0

R ⇒ idx last el

R = -1

F = -1



QUEUE

8:29 / 45:49 • Queue using Array ›

Scroll for details

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Implementation 1

Queue using Array

(i) size = n

⇒ ADD

full?

F ⇒ 0

R ⇒ idx last el

R = -1

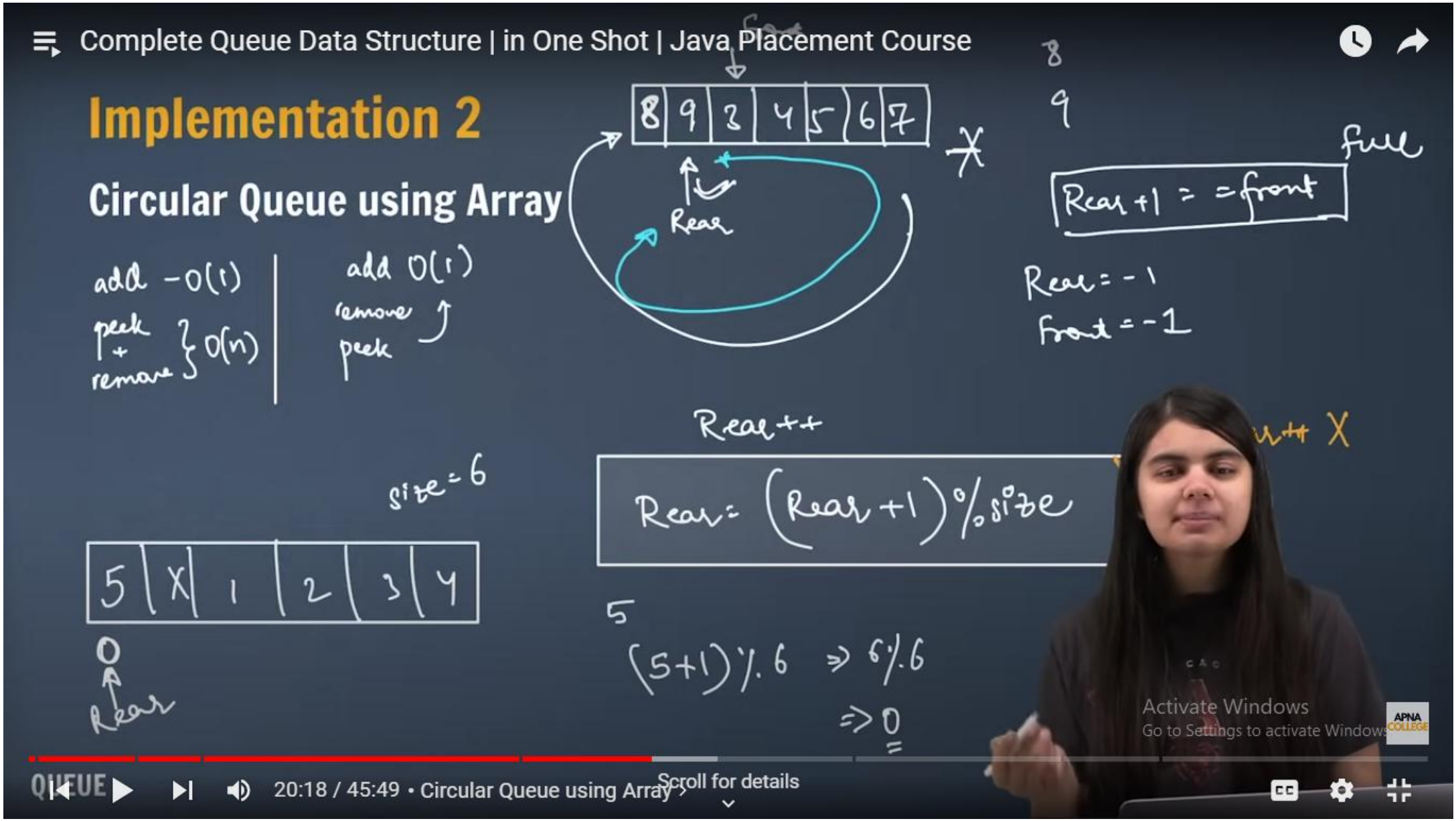
F = -1

add - O(1)

remove - O(n)

+

peak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Implementation 2
Circular Queue using Array
add -O(1)
peek + remove } O(n)
add O(1)
remove
peek
8 9 3 4 5 6 7
Rear
front
8
9
full
Rear+1 == front
Rear = -1
Front = -1
Rear++
Rear = (Rear+1)%size
size=6
5 X 1 2 3 4
0
Rear
5
(5+1)%6 => 6%6
=> 0
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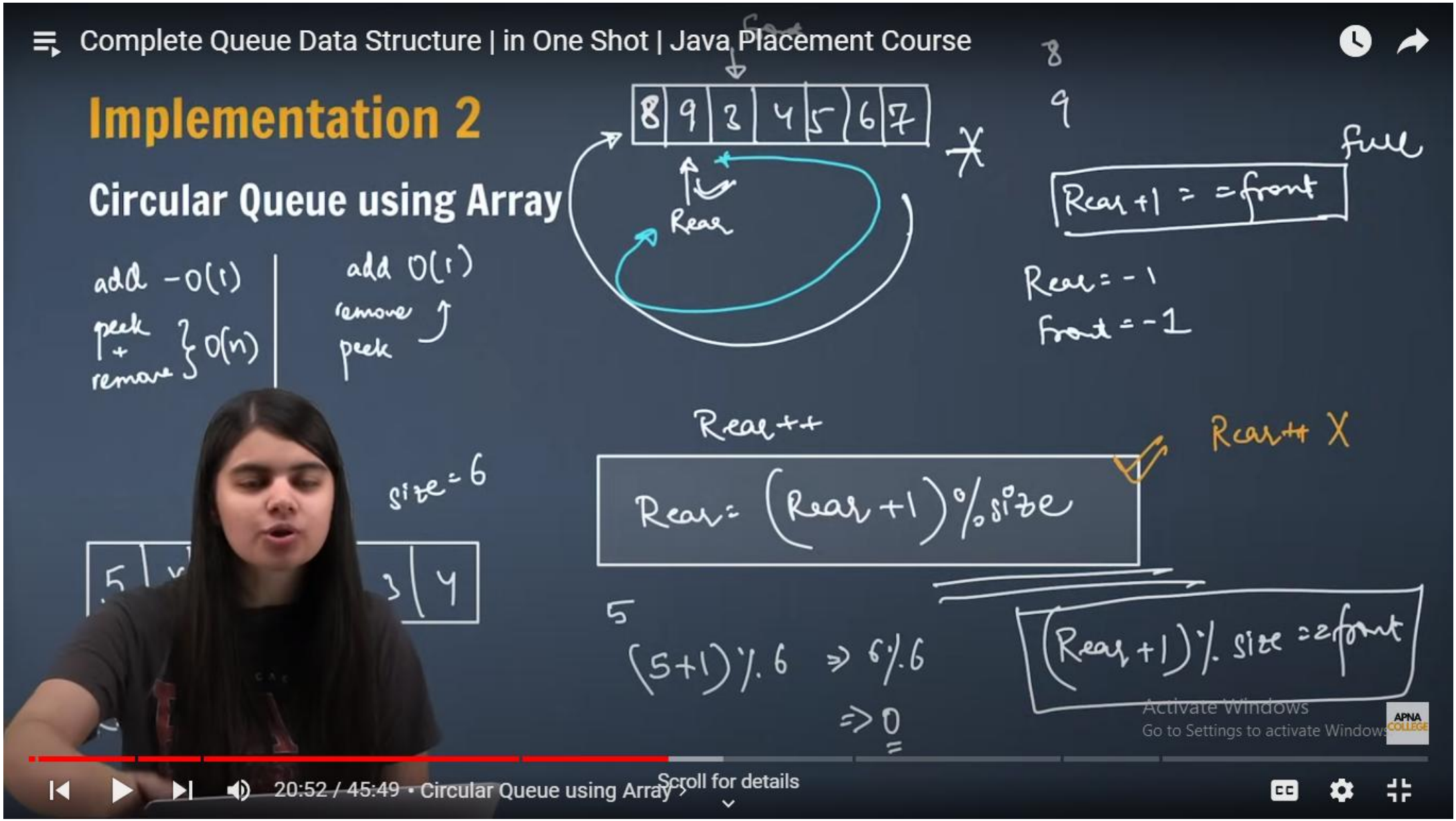
QUEUE
20:18 / 45:49 • Circular Queue using Array
Scroll for details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Implementation 2
Circular Queue using Array
front
8 9 3 4 5 6 7
Rear
8
9
full
Rear+1 == front
Rear = -1
front = -1
add -O(1)
peek + remove } O(n)
add O(1)
remove
peek
size = 6
Rear++
Rear = (Rear+1) % size
Rear++ X
5
(5+1) % 6 ⇒ 6 % 6
⇒ 0
(Rear+1) % size == front
Activate Windows
Go to Settings to activate Windows.
APNA COLLEGE
20:52 / 45:49 • Circular Queue using Array
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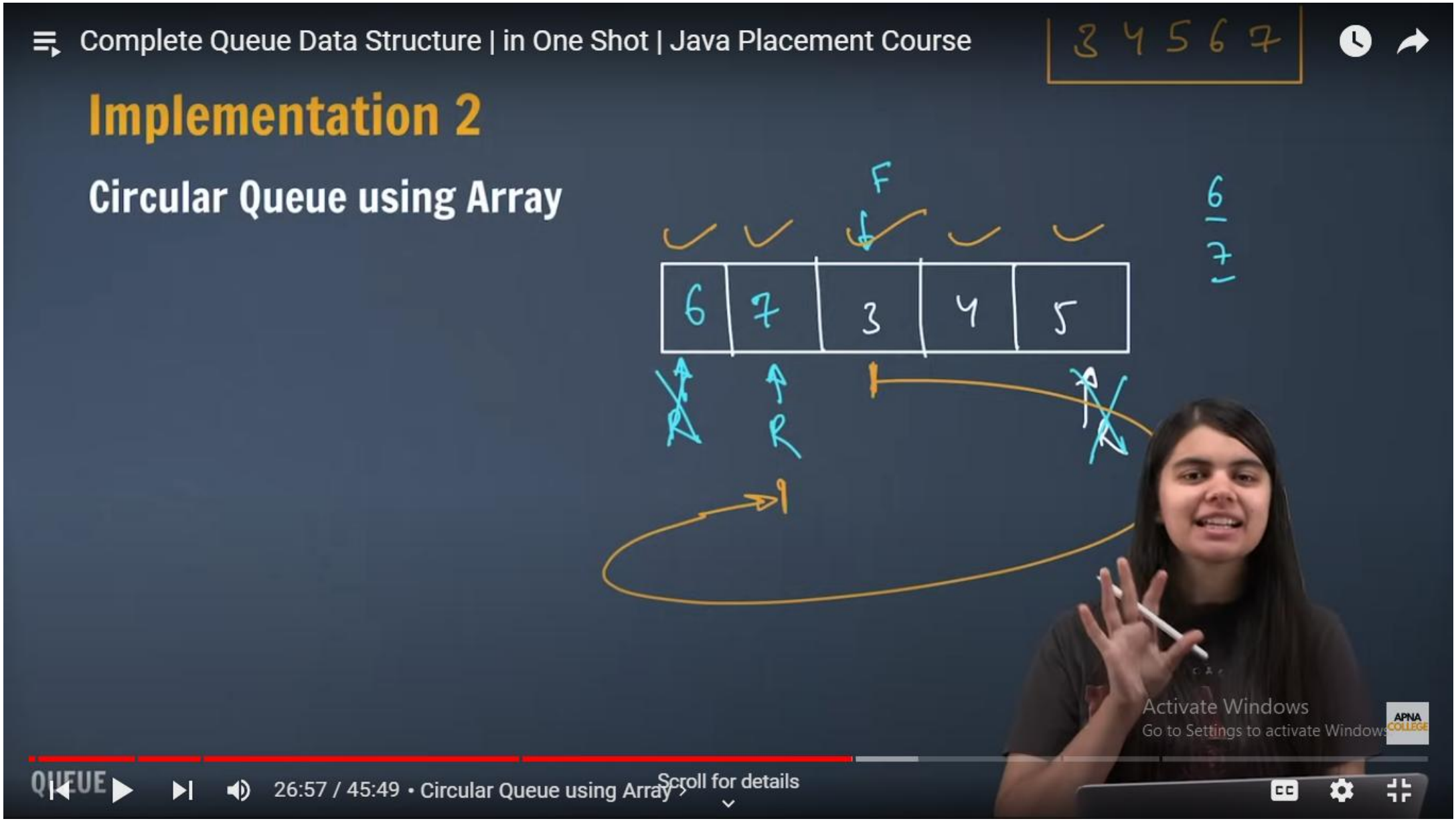
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3 4 5 6 7
Implementation 2
Circular Queue using Array
F
6 7 3 4 5
R
R
6
7
1
Activate Windows
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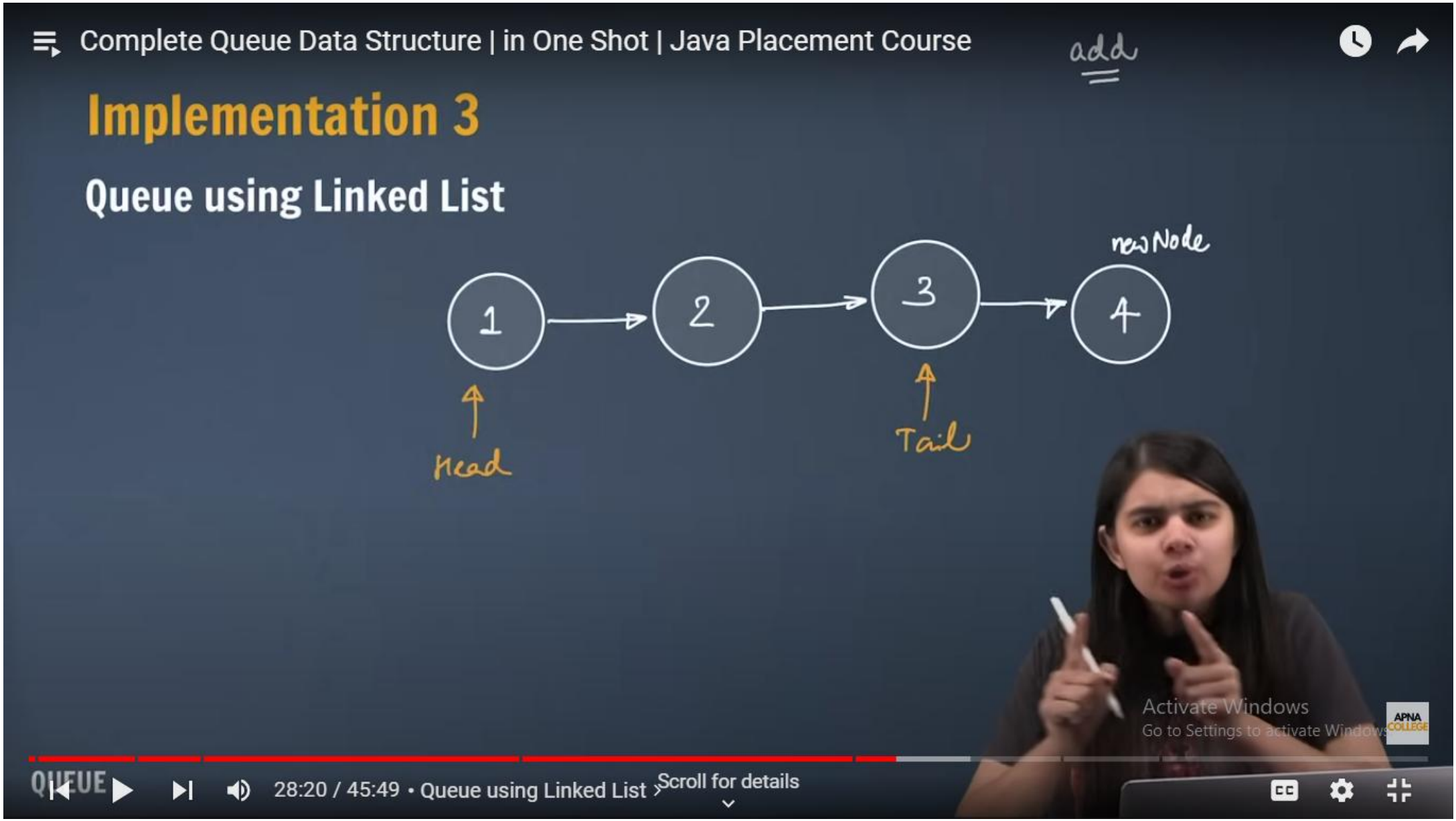
APNA COLLEGE
QUEUE
26:57 / 45:49 • Circular Queue using Array
Scroll for details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add
Implementation 3
Queue using Linked List
newNode
1
2
3
4
Head
Tail
Activate Windows
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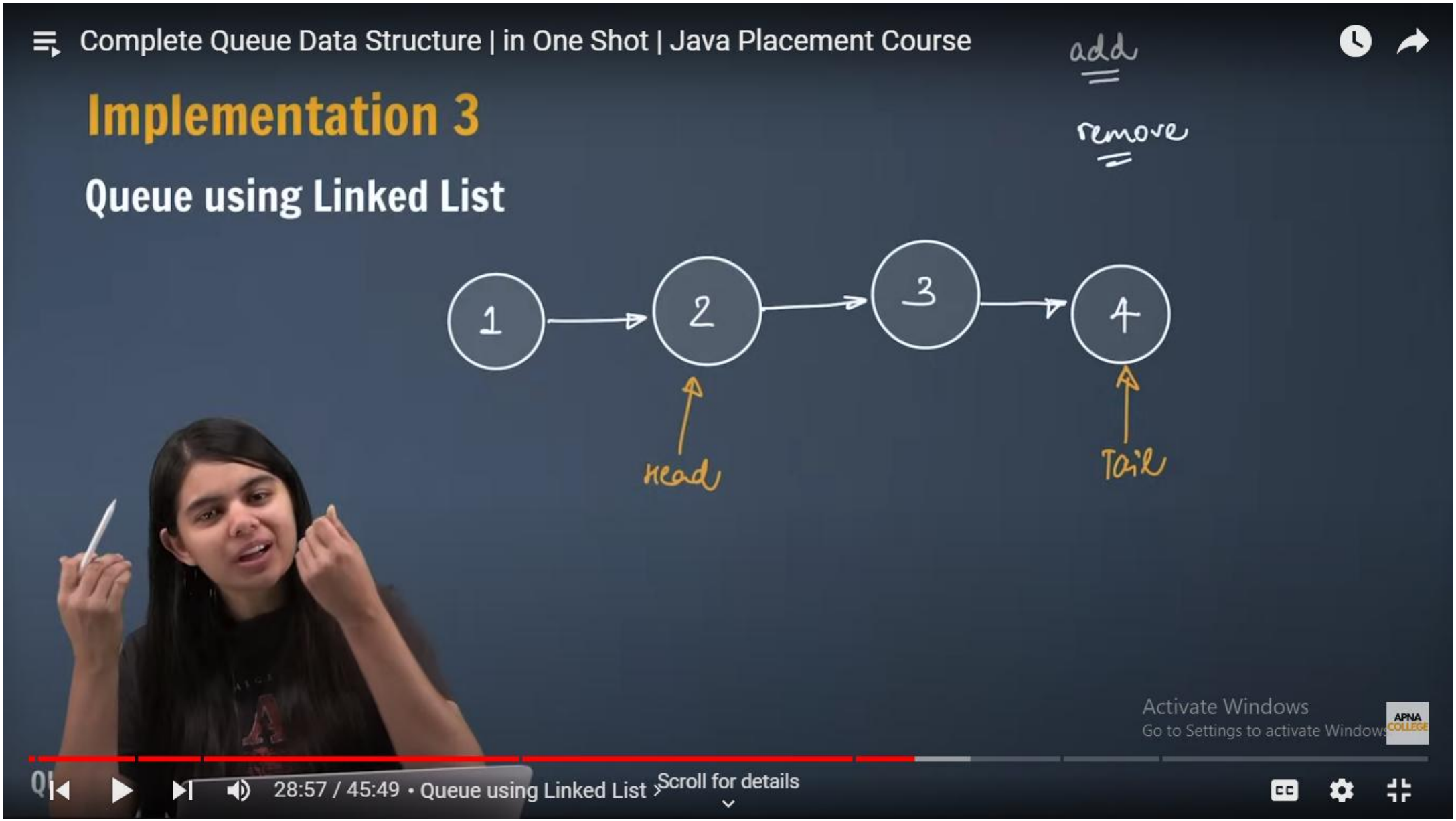
APNA COLLEGE
QUEUE
28:20 / 45:49 • Queue using Linked List
Scroll for details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add
remove
Implementation 3
Queue using Linked List
1
2
3
4
head
Tail
Activate Windows
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APNA COLLEGE
28:57 / 45:49 • Queue using Linked List
Scroll for details

Implementation 3

Queue using Linked List

QUE

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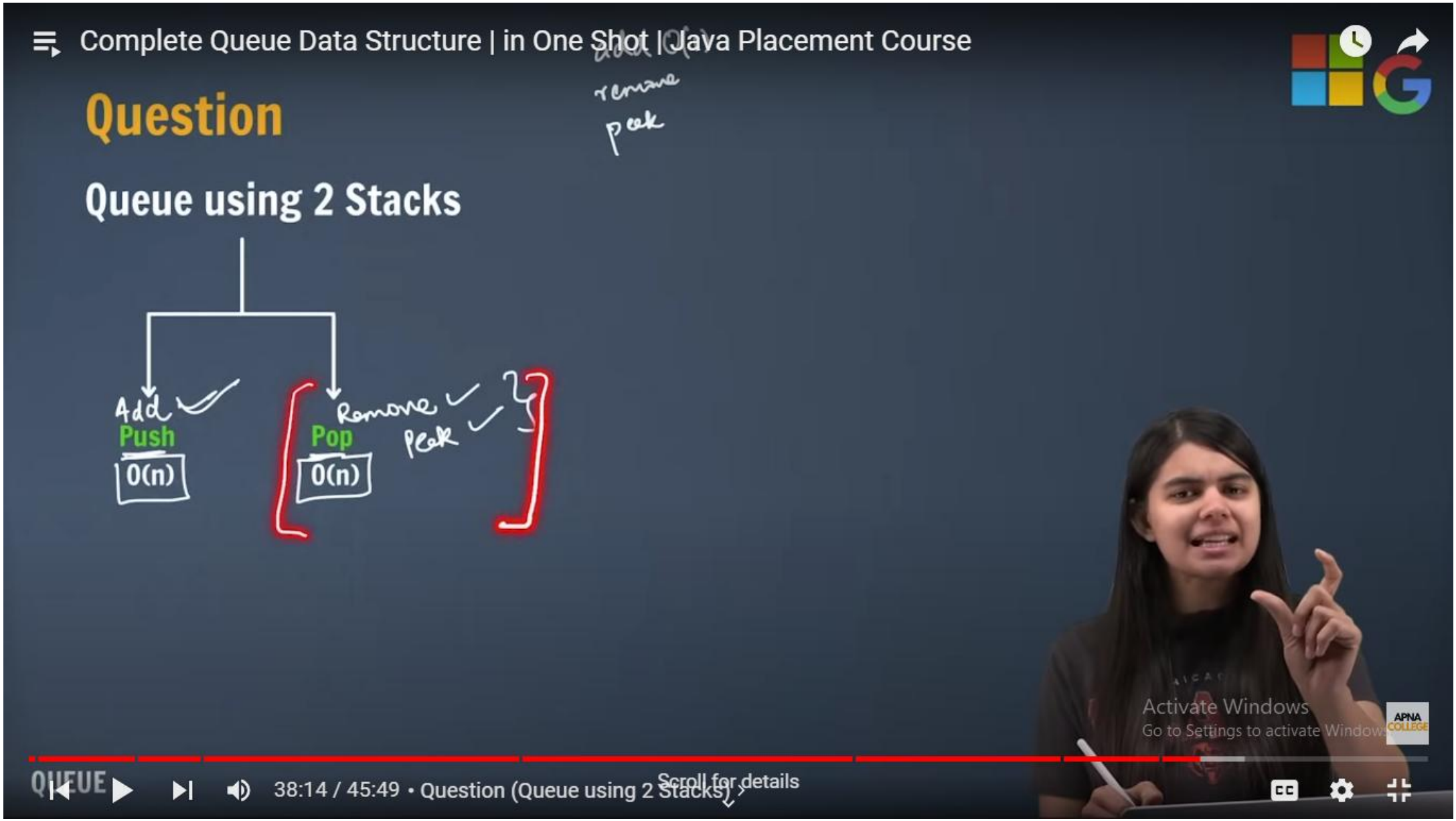
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Question
Queue using 2 Stacks
Add
Push
O(n)
Pop
Remove
Peek
O(n)
Activate Windows
Go to Settings to activate Windows.
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QUEUE
38:14 / 45:49 • Question (Queue using 2 Stacks)
Scroll for details

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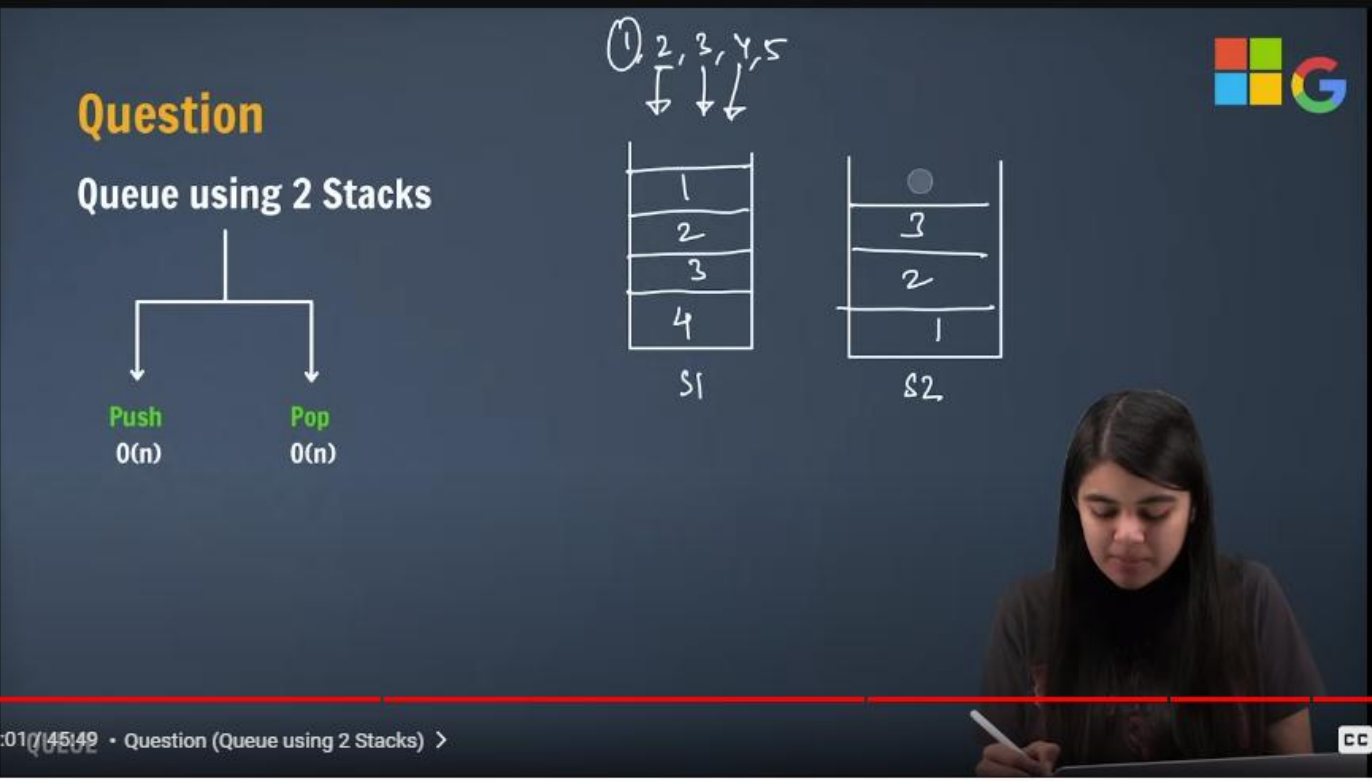

40:01 / 45:49 • Question (Queue using 2 Stacks) >

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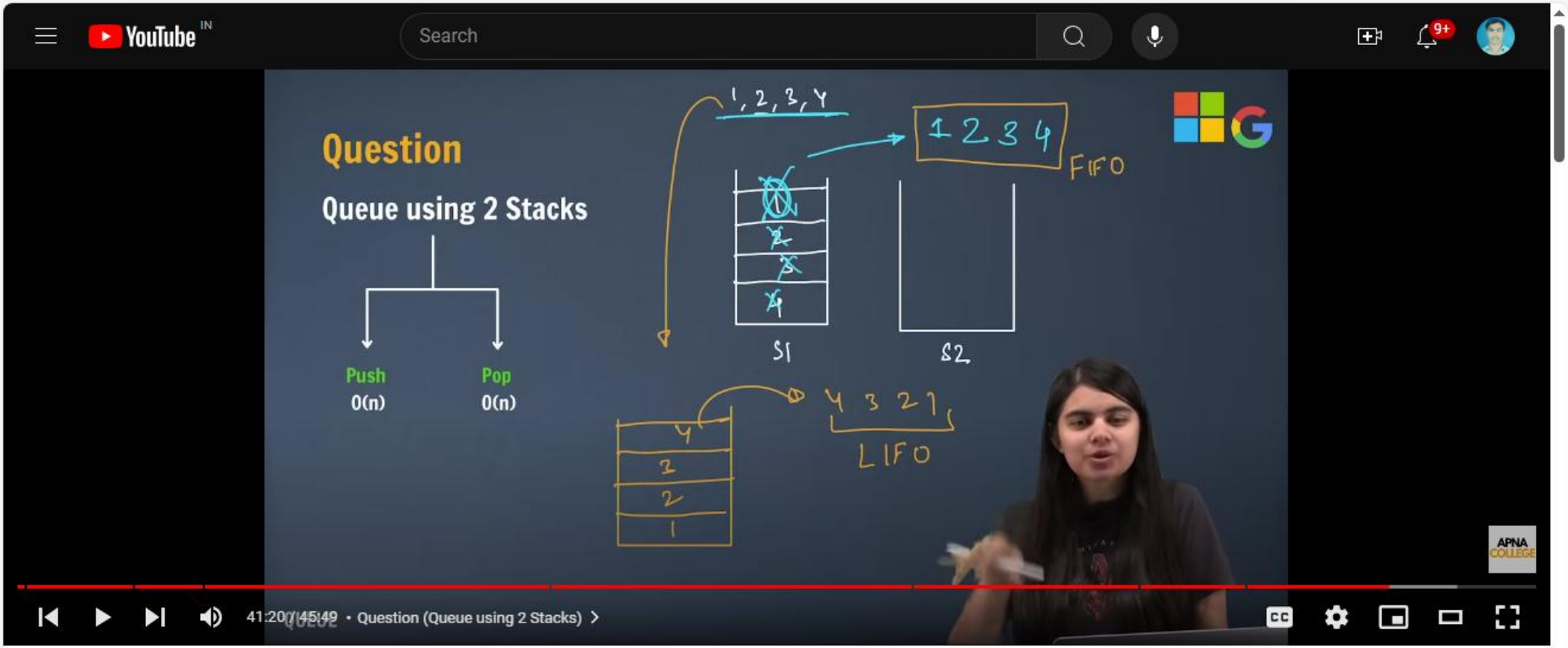

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