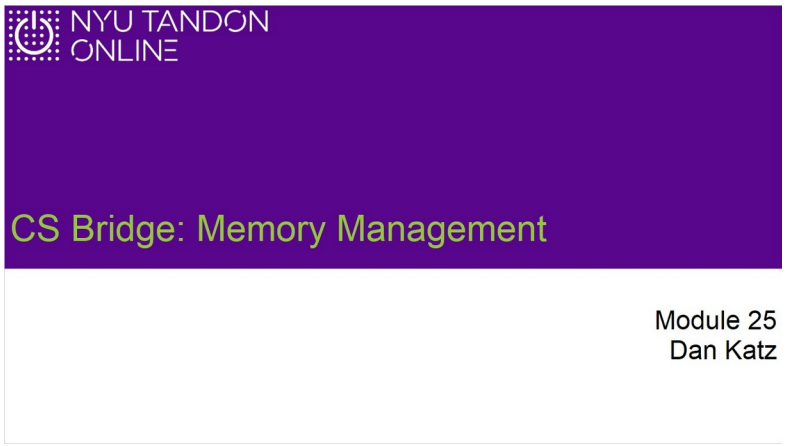
CS Bridge Module 25 Memory Management

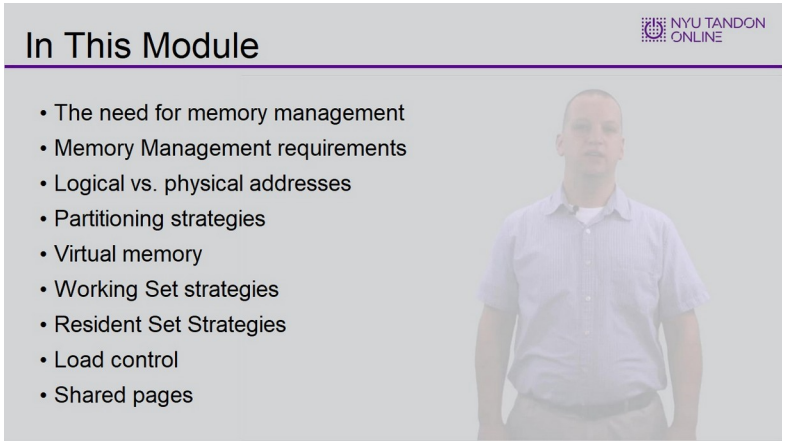
1. Memory Management

1.1 CS Bridge: Memory Management

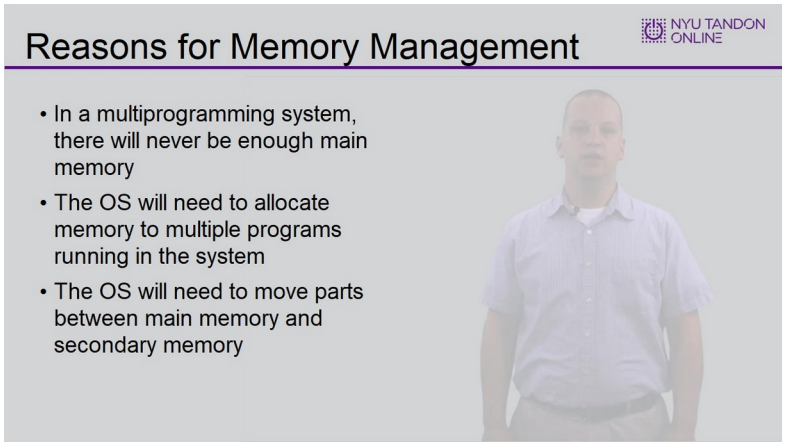


Notes:

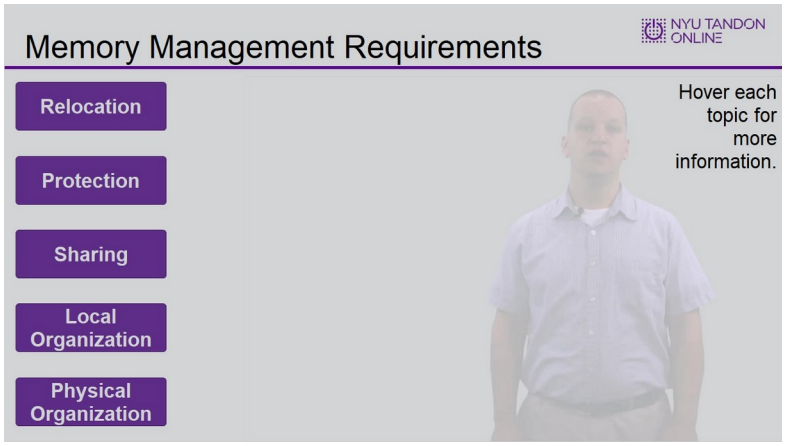
1.2 In this module



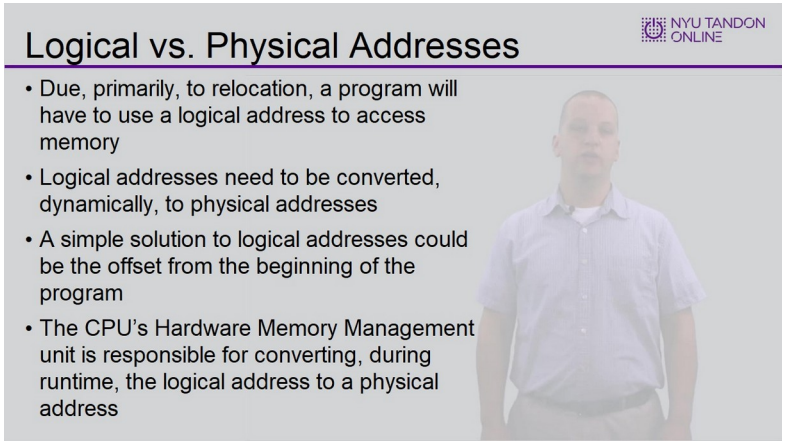
1.3 Reasons for Memory Management



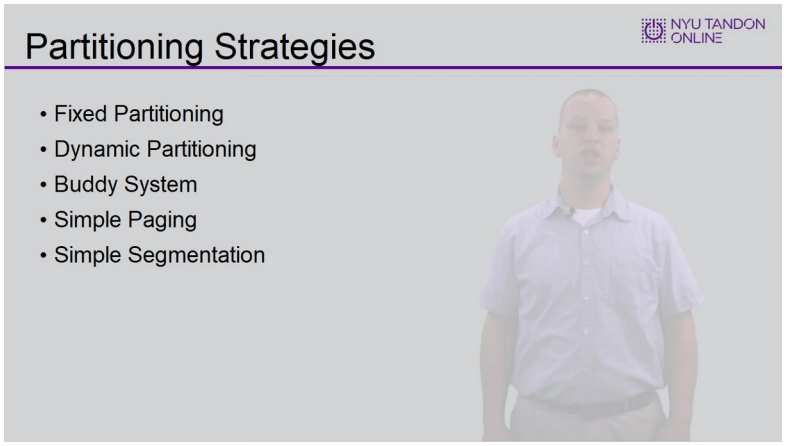
1.4 Memory Management Requirements



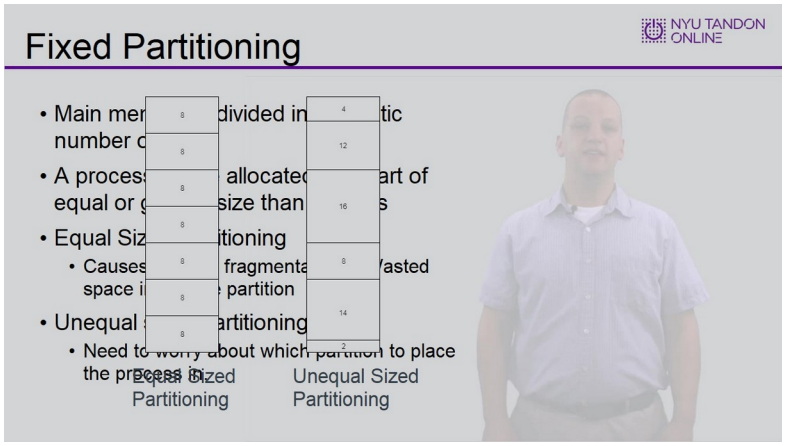
1.5 Logical vs. Physical addresses



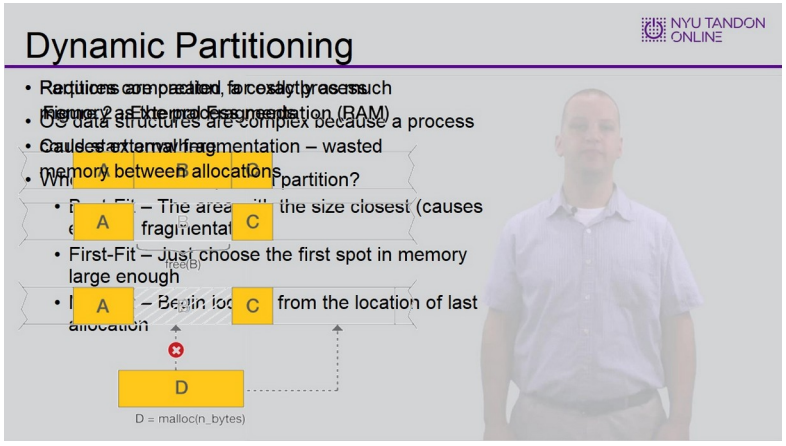
1.6 Partitioning Strategies



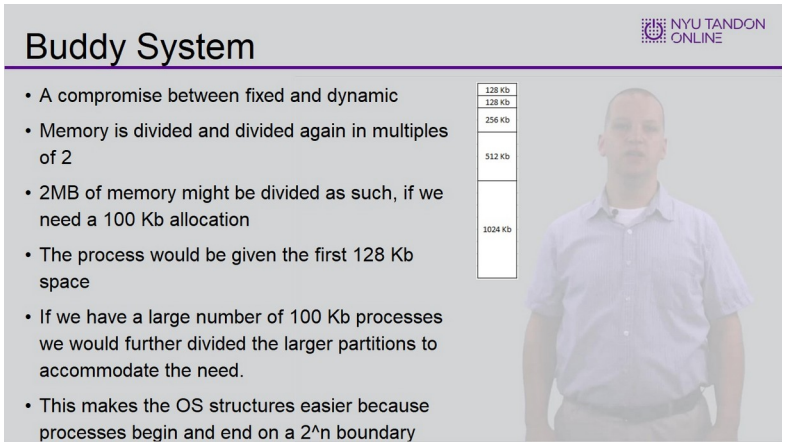
1.7 Fixed Partitioning



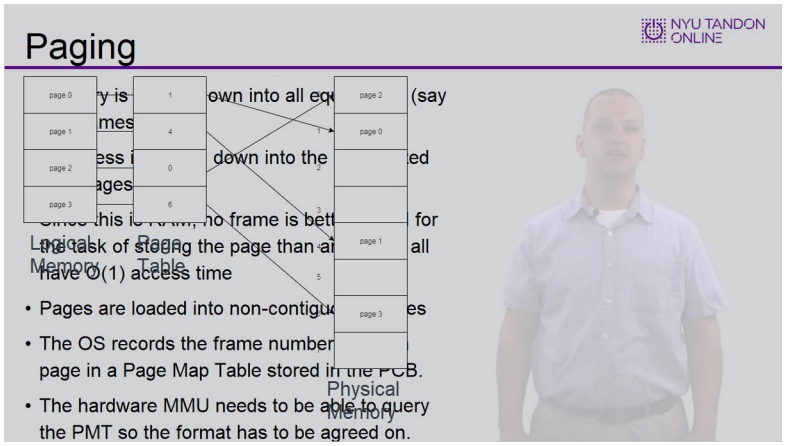
1.8 Dynamic Partitioning



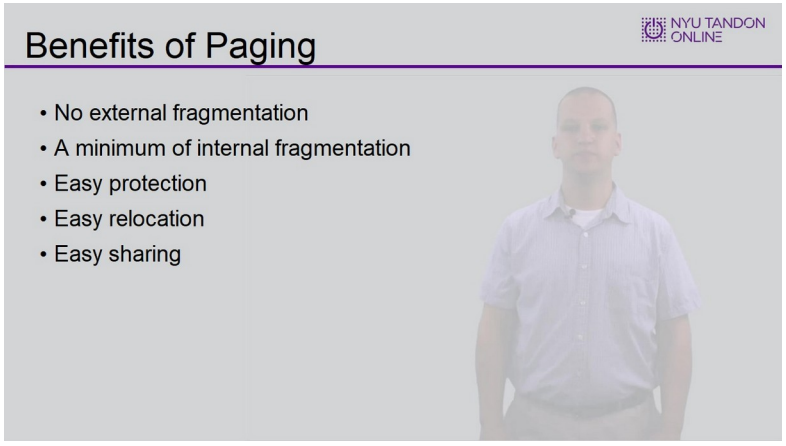
1.9 Buddy System



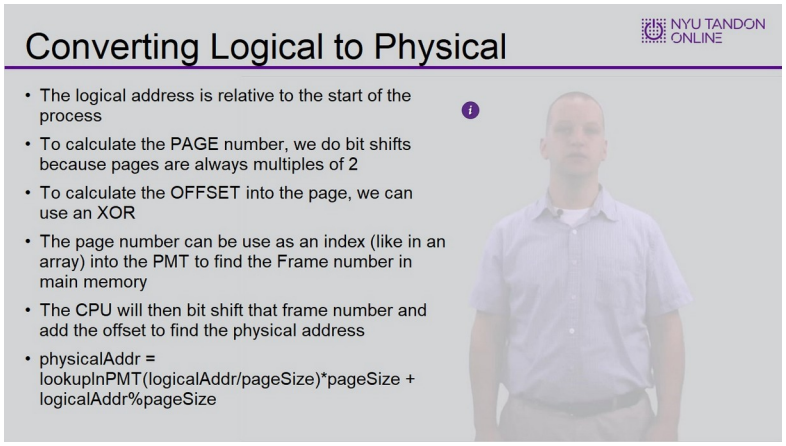
1.10 Paging



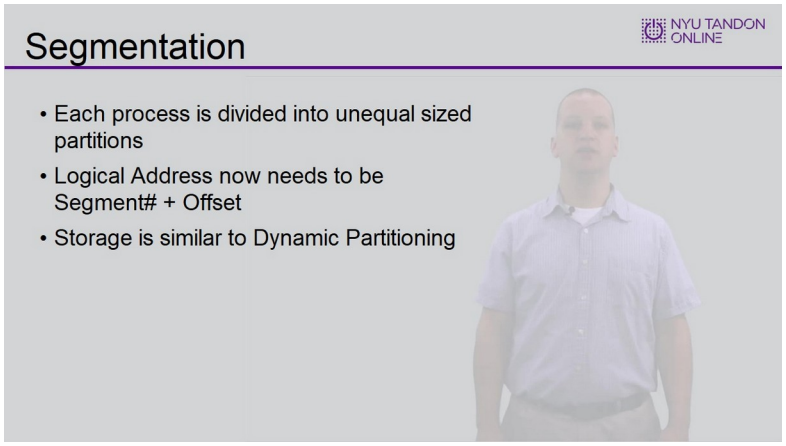
1.11 Benefits of Paging



1.12 Converting Logical to Physical

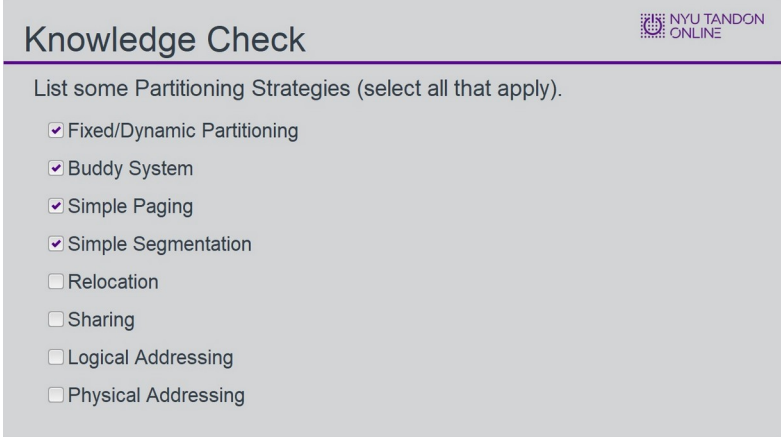


1.13 Segmentation



1.14 Knowledge Check

(Multiple Response, 10 points, 5 attempts permitted)



Correct	Choice
X	Fixed/Dynamic Partitioning
X	Buddy System
X	Simple Paging
X	Simple Segmentation
	Relocation
	Sharing
	Logical Addressing
	Physical Addressing

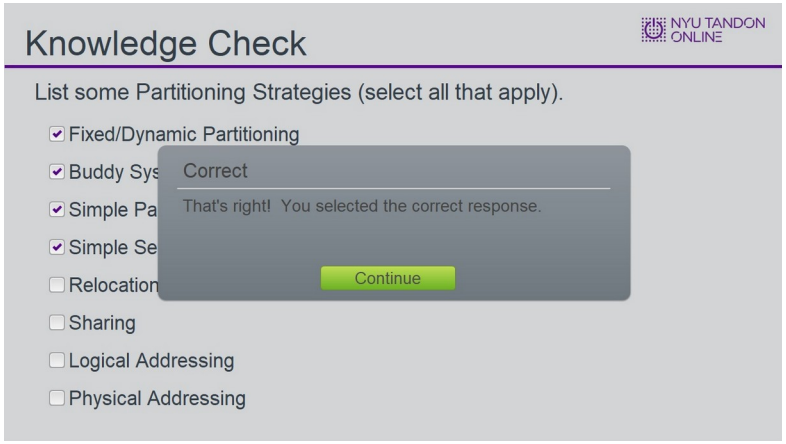
Feedback when correct:

That's right! You selected the correct response.

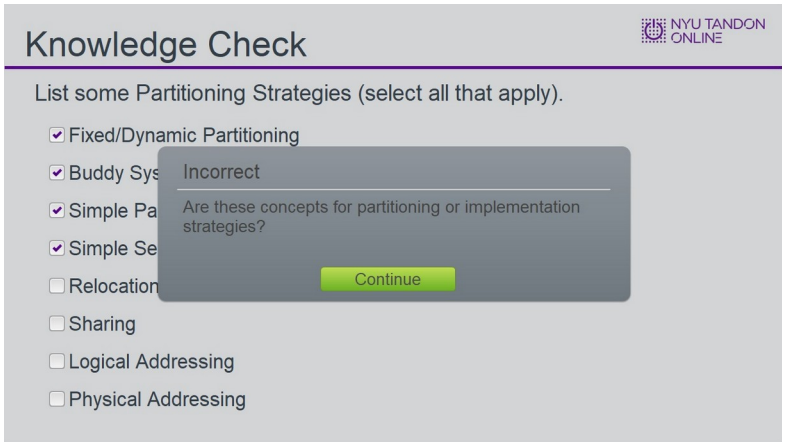
Feedback when incorrect:

Are these concepts for partitioning or implementation strategies?

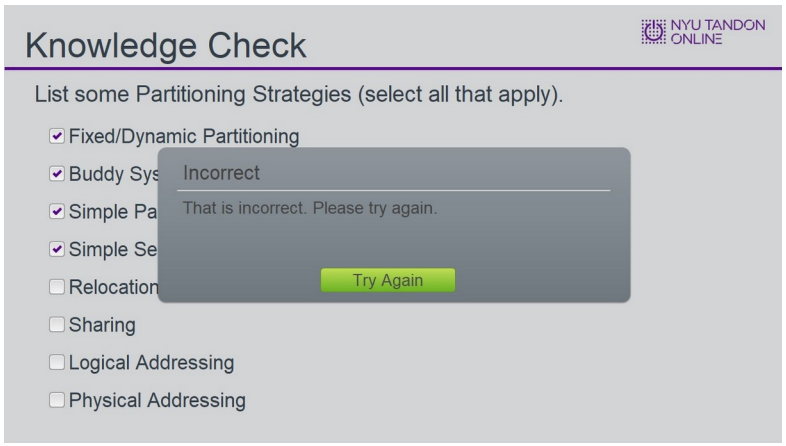
Correct (Slide Layer)



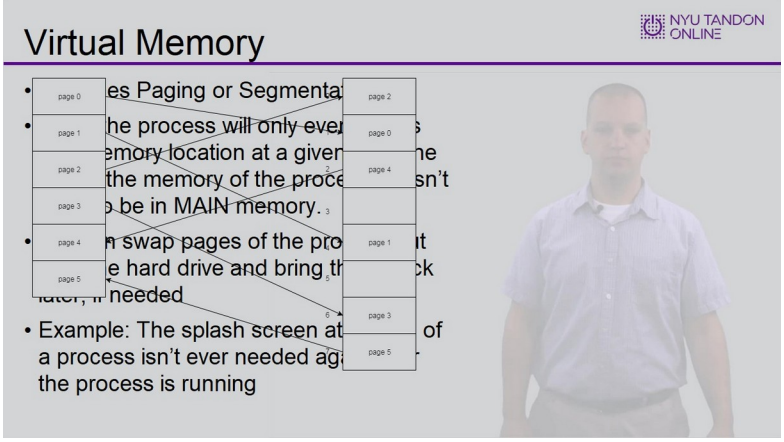
Incorrect (Slide Layer)



Try Again (Slide Layer)

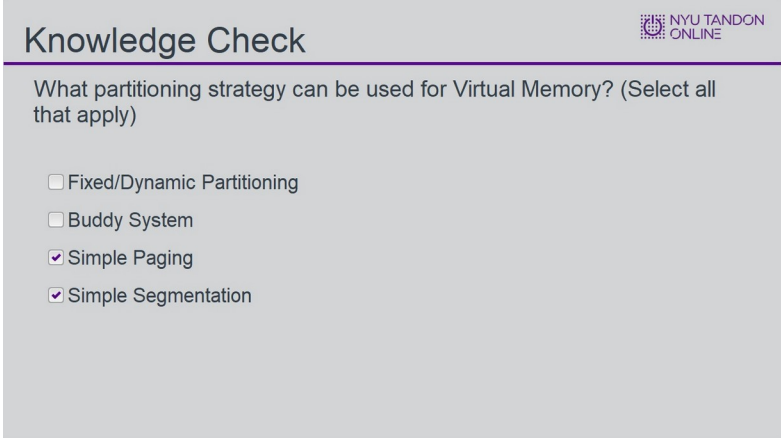


1.15 Virtual Memory



1.16 Knowledge Check

(Multiple Response, 10 points, 4 attempts permitted)



Correct	Choice
	Fixed/Dynamic Partitioning
	Buddy System
X	Simple Paging
X	Simple Segmentation

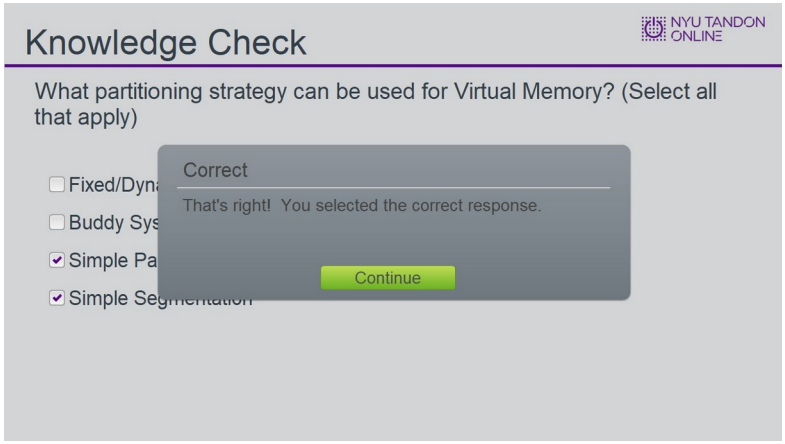
Feedback when correct:

That's right! You selected the correct response.

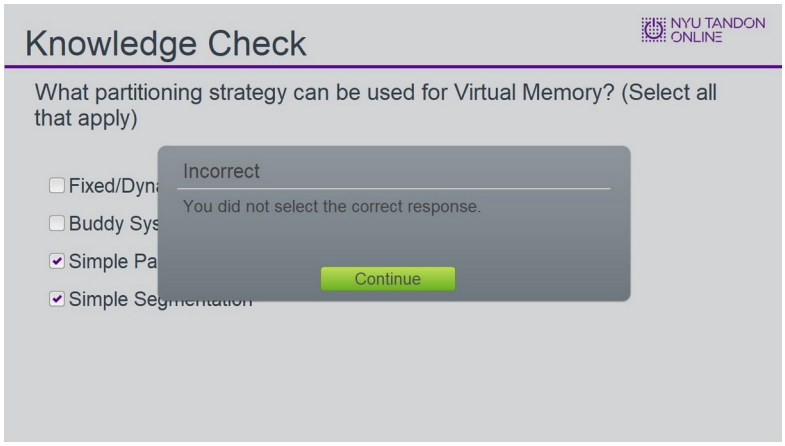
Feedback when incorrect:

You did not select the correct response.

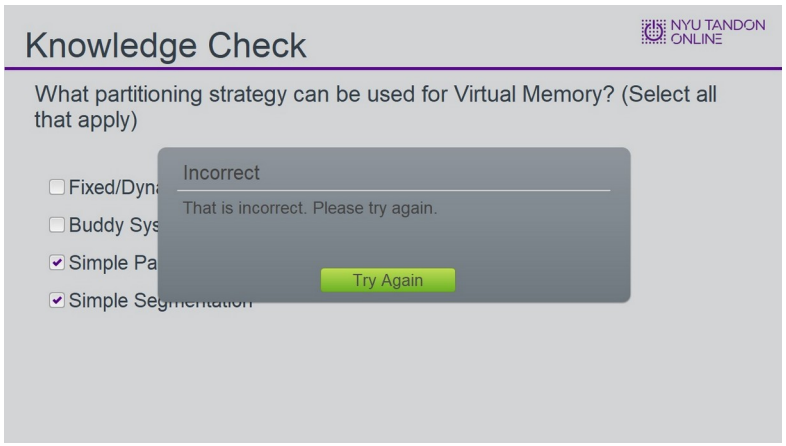
Correct (Slide Layer)



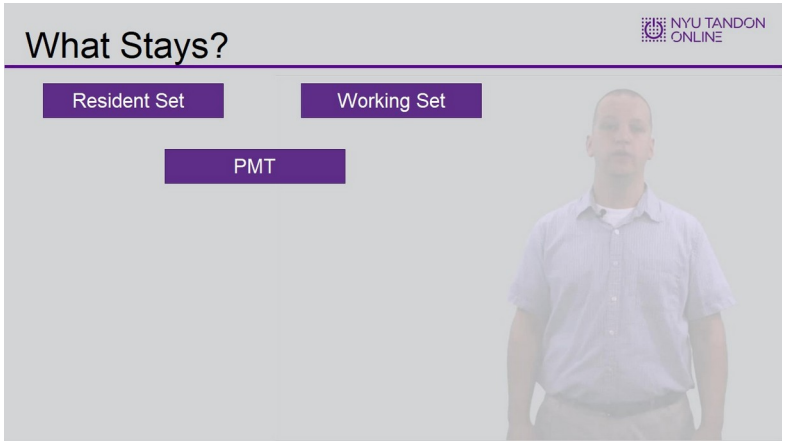
Incorrect (Slide Layer)



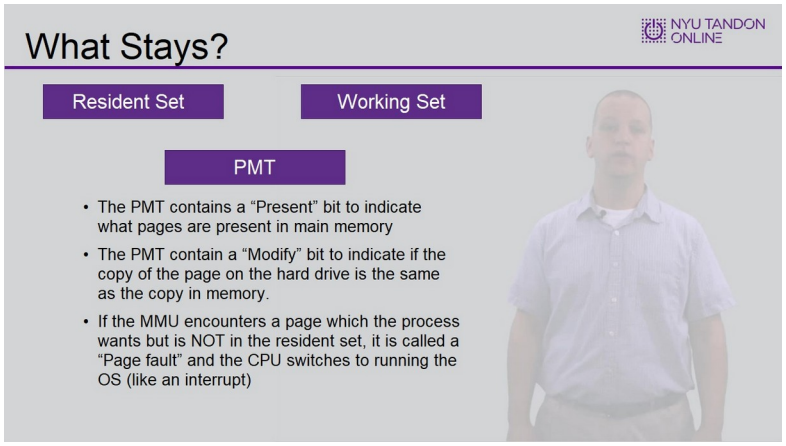
Try Again (Slide Layer)



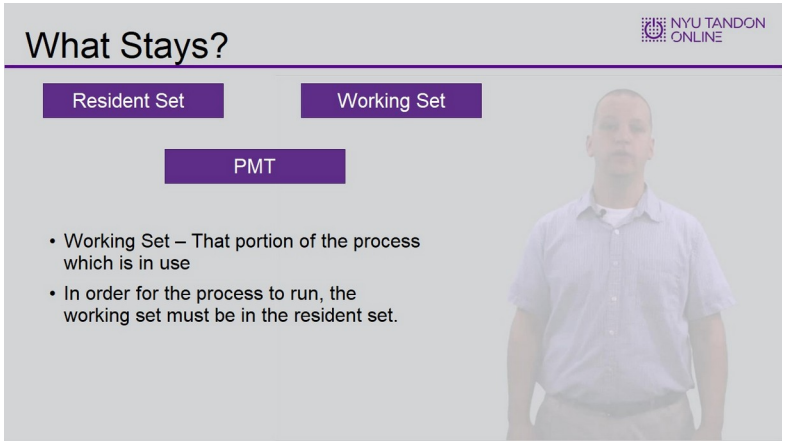
1.17 What stays?



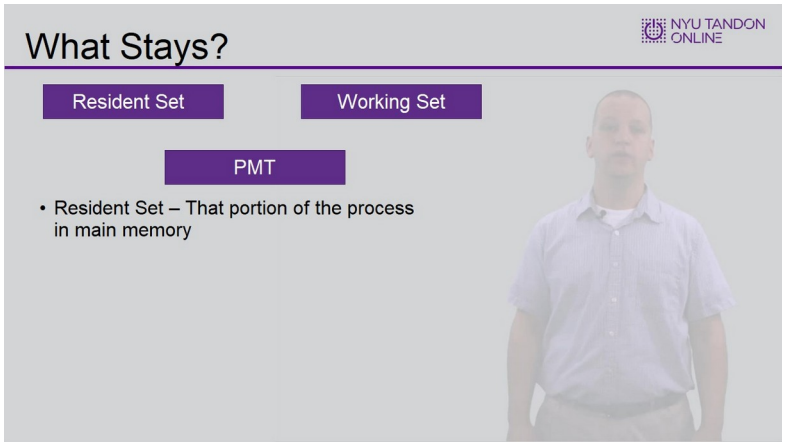
PMT (Slide Layer)



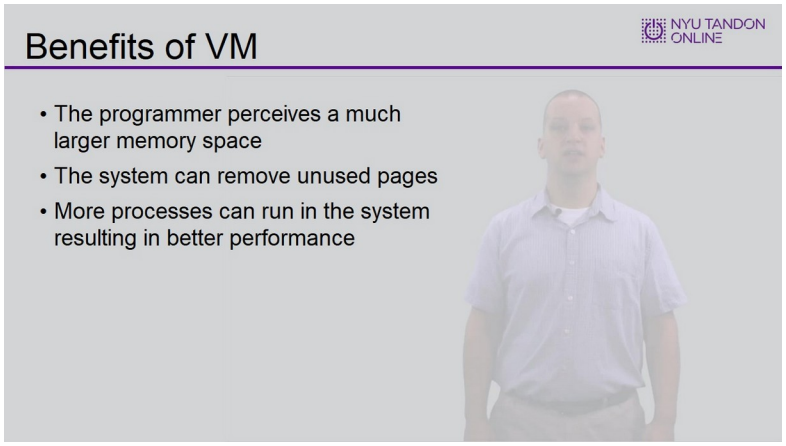
Working Set (Slide Layer)



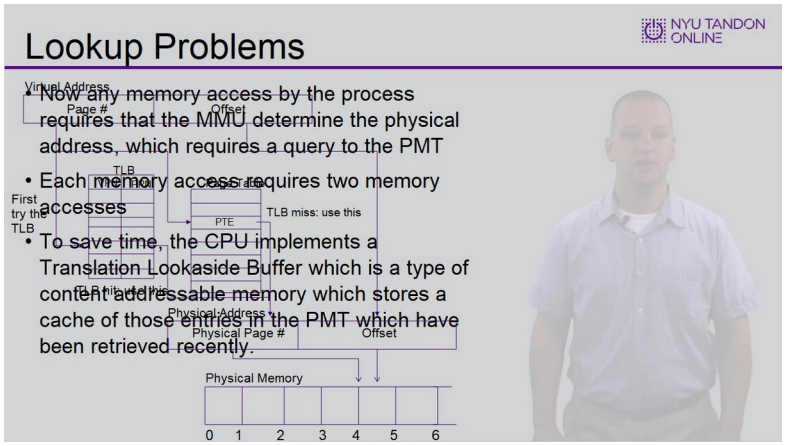
Resident Set (Slide Layer)



1.18 Benefits of VM

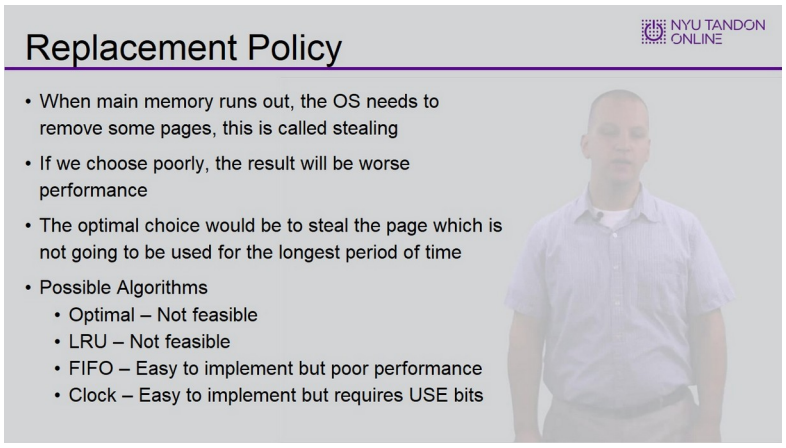


1.19 Lookup problems

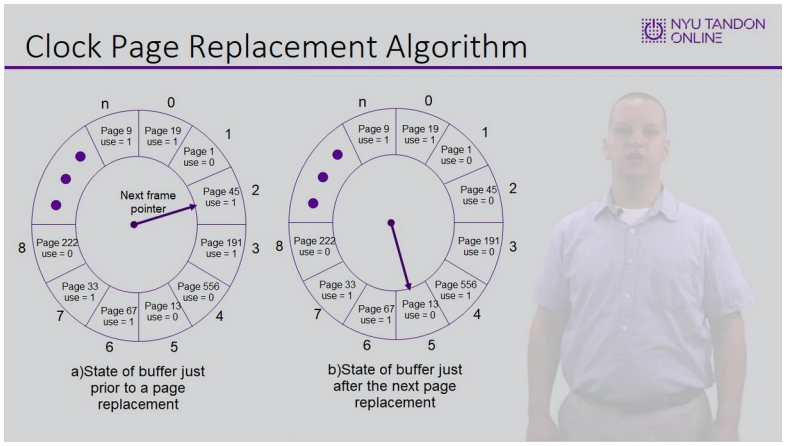


Notes:

1.20 Replacement policy



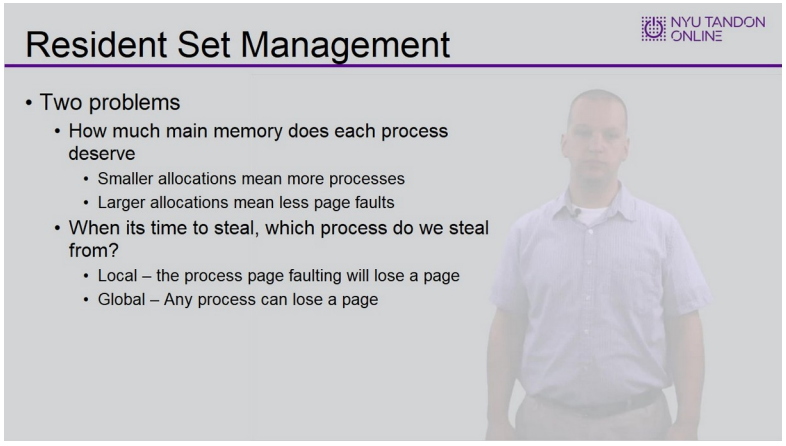
1.21 Clock page replacement algorithm



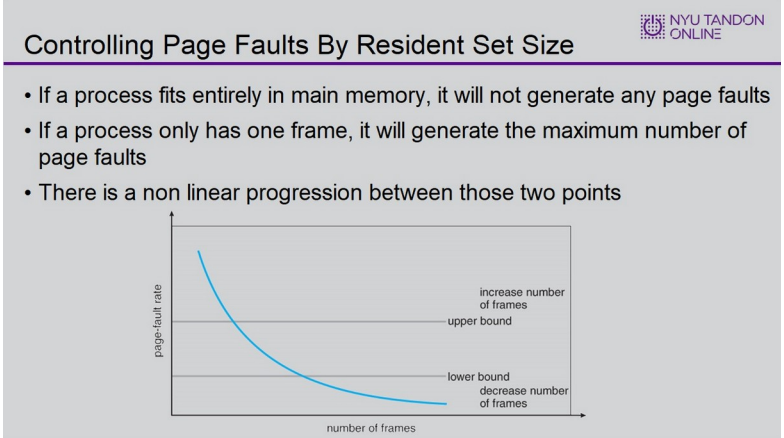
Notes:

Image from http://image.slidesharecdn.com/os-pagereplacementalgorithms-150104051823-conversion-gate02/95/os-page-replacement-algorithms-26-638.jpg?cb=1420370365

1.22 Resident set management



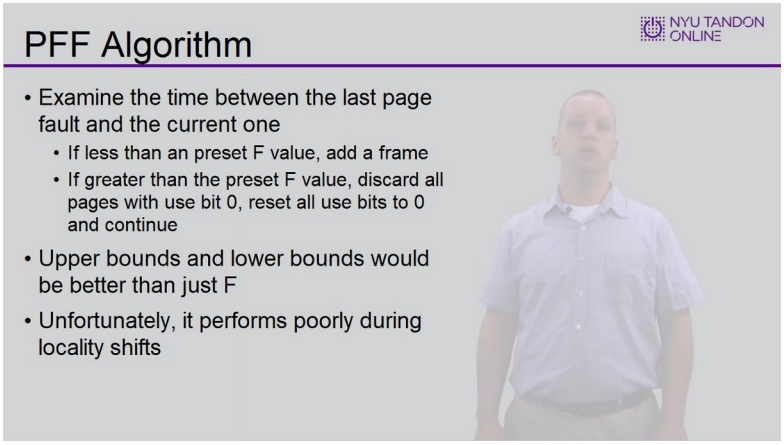
1.23 Controlling page faults by resident set size



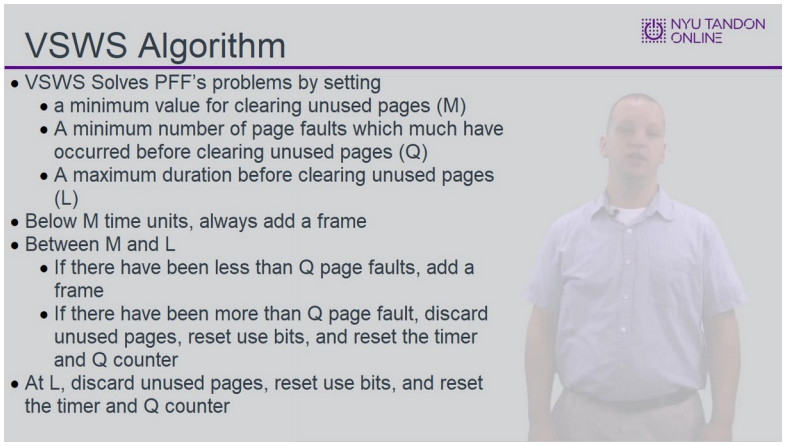
Notes:

Image taken from:
https://www.cs.uic.edu/~jbell/CourseNotes/OperatingSystems/images/Chapter9/9_21_PageFaultFrequency.jpg

1.24 PFF Algorithm

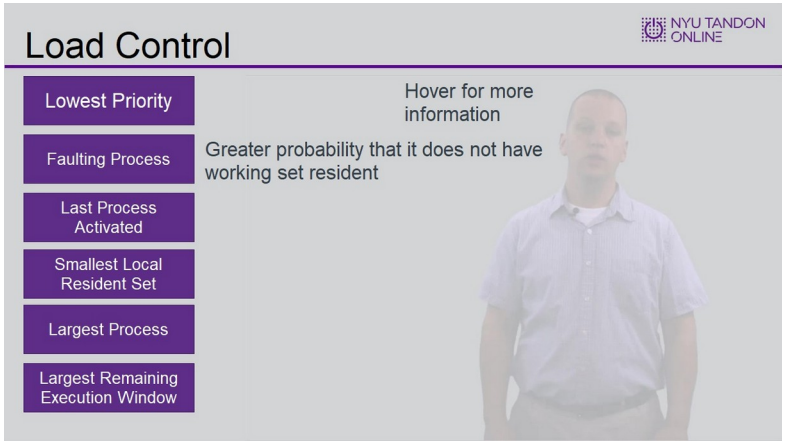


1.25 VSWS Algorithm



1.26 Load Control

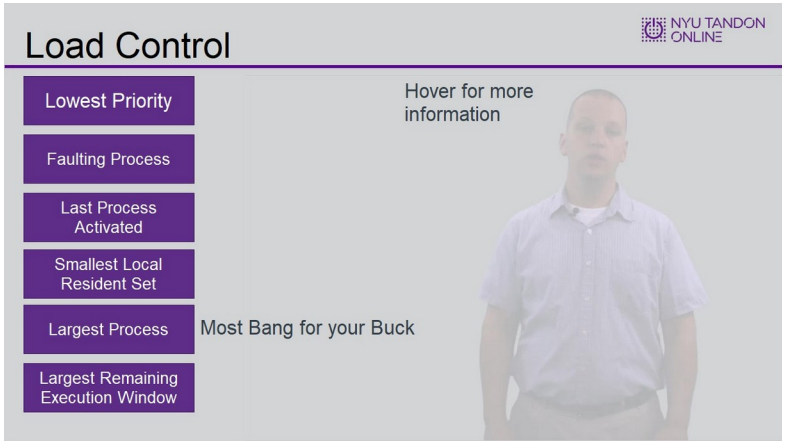
Faulting Process (Slide Layer)



Last Process Activated (Slide Layer)

Smallest Local Resident Set (Slide Layer)

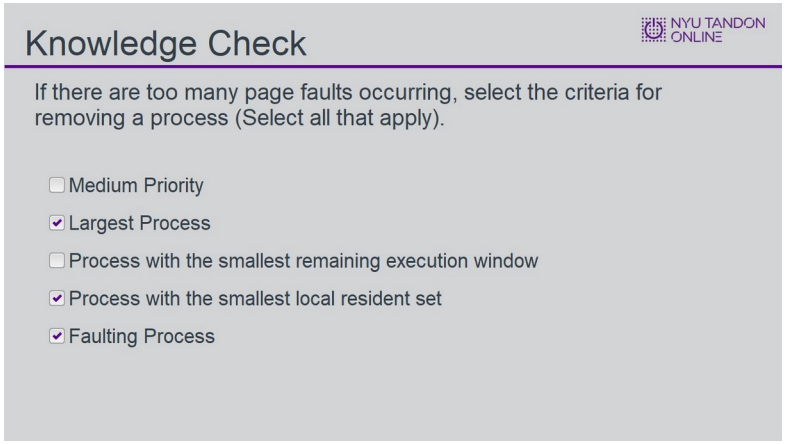
Largest Process (Slide Layer)



Largest Remaining Execution Window (Slide Layer)

1.27 Knowledge Check

(Multiple Response, 10 points, 5 attempts permitted)



Correct	Choice
	Medium Priority
X	Largest Process
	Process with the smallest remaining execution window
X	Process with the smallest local resident set
X	Faulting Process

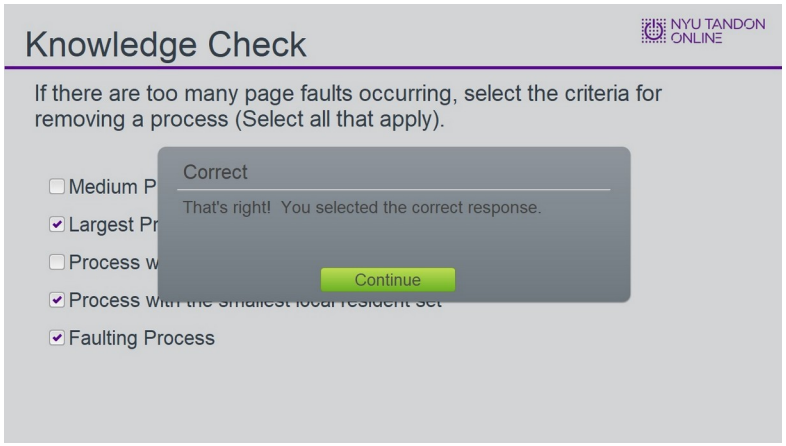
Feedback when correct:

That's right! You selected the correct response.

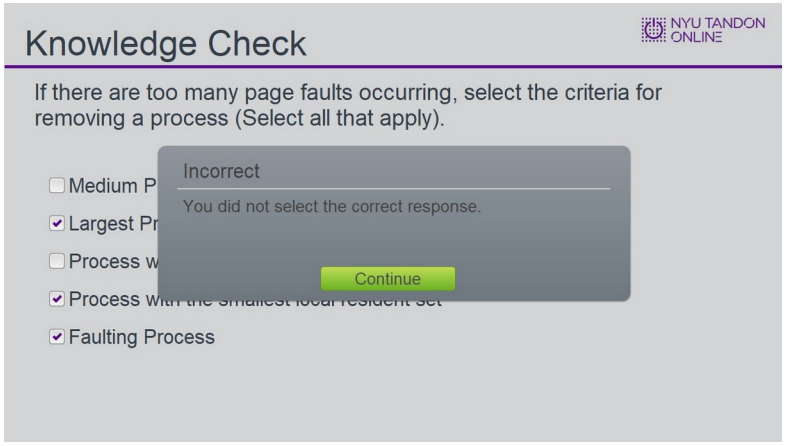
Feedback when incorrect:

You did not select the correct response.

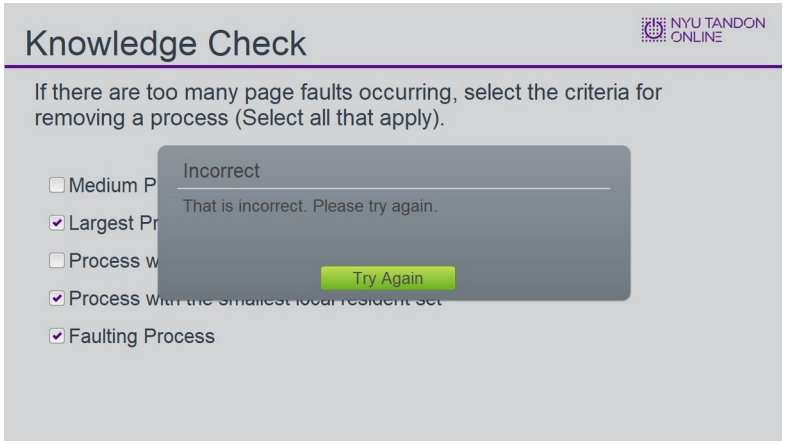
Correct (Slide Layer)



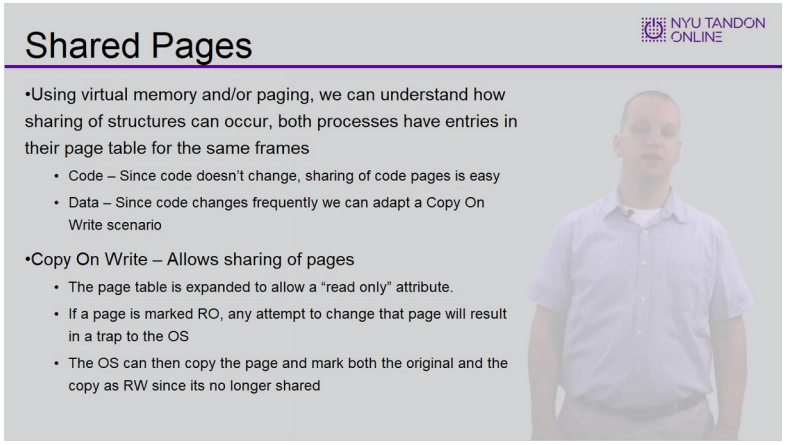
Incorrect (Slide Layer)



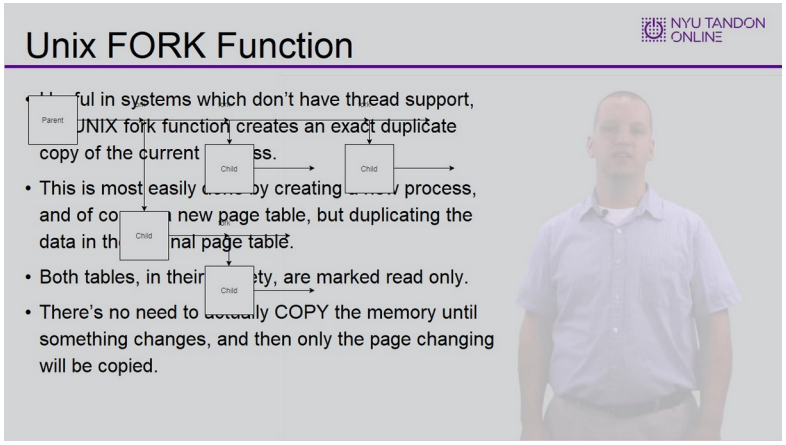
Try Again (Slide Layer)



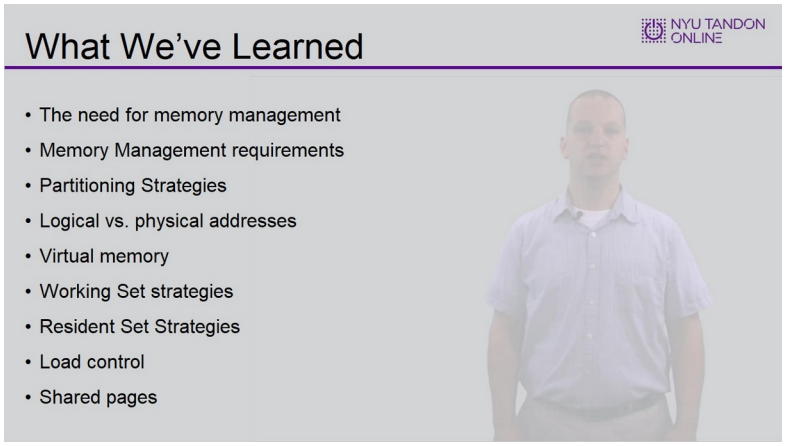
1.28 Shared Pages



1.29 Unix FORK function

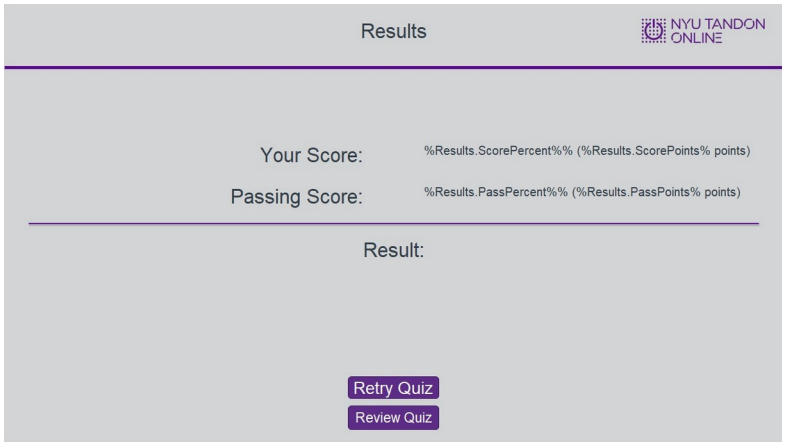


1.30 In this module we learned



1.31 Results Slide

(Results Slide, 0 points, 1 attempt permitted)

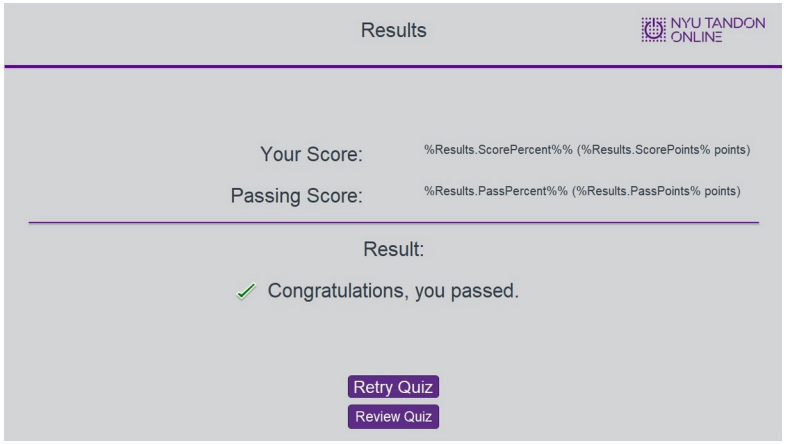


Results for
1.14 Knowledge Check
1.16 Knowledge Check
1.27 Knowledge Check

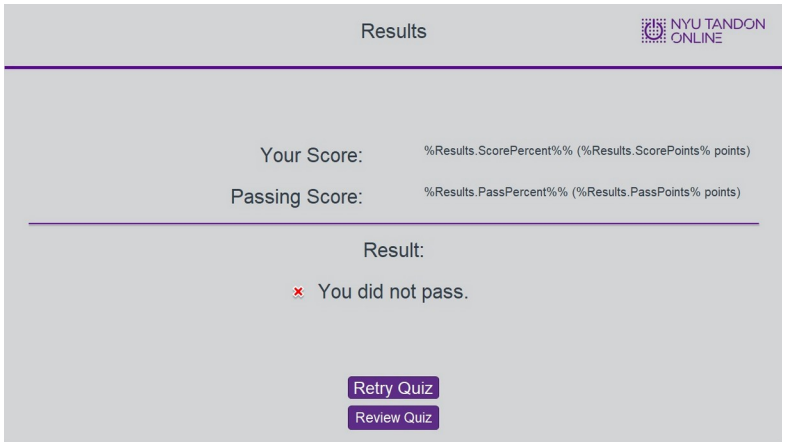
Result slide properties

Passing Score	80%

Success (Slide Layer)



Failure (Slide Layer)



1.32 End of Module