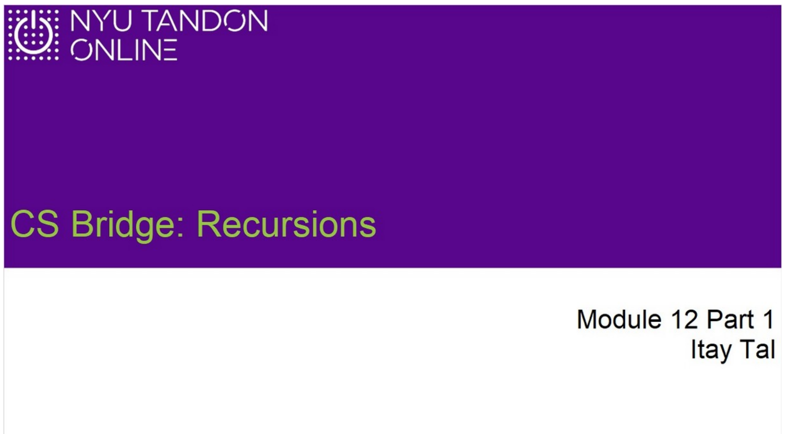
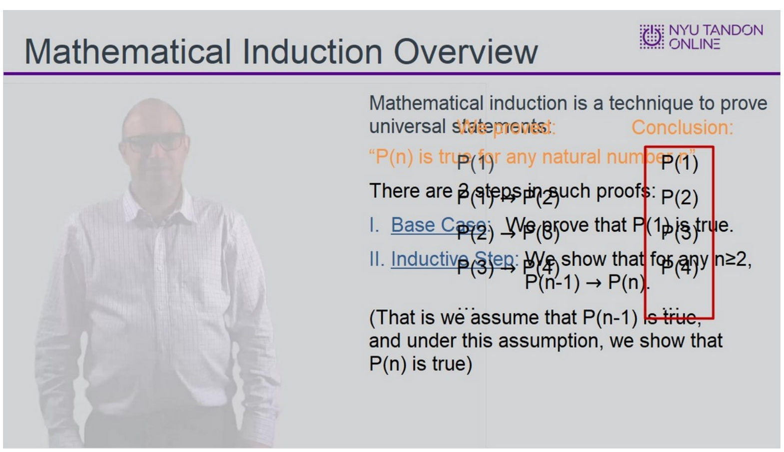
CS Bridge Module 12 Recursions Part 1

1. Recursions - Part 1

1.1 CS Bridge: Recursions

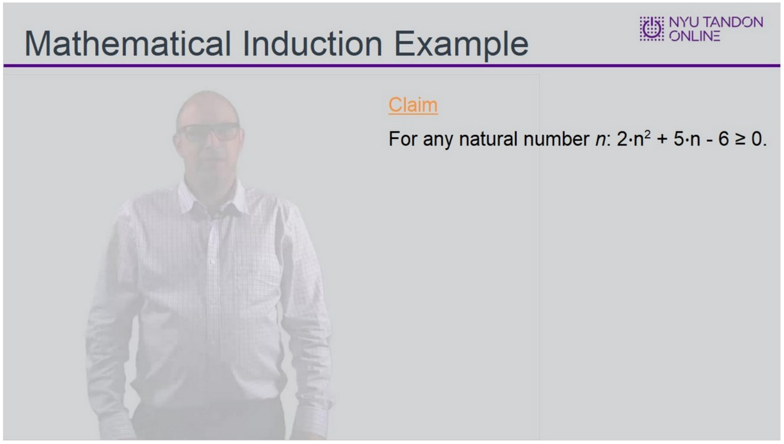


1.2 Mathematical Induction overview



Notes:

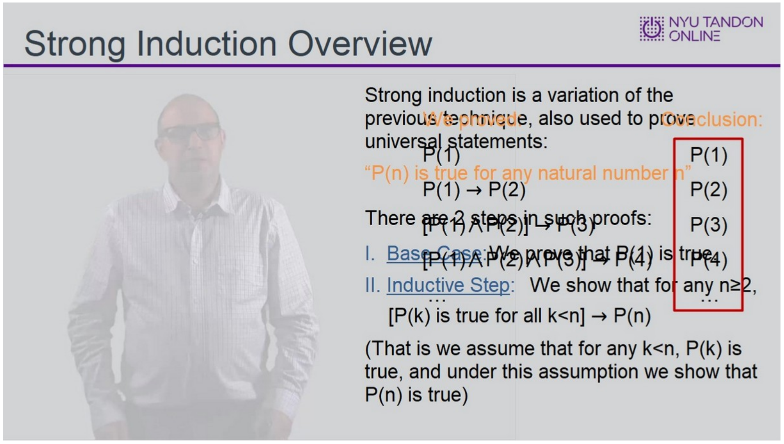
1.3 Mathematical Induction Example



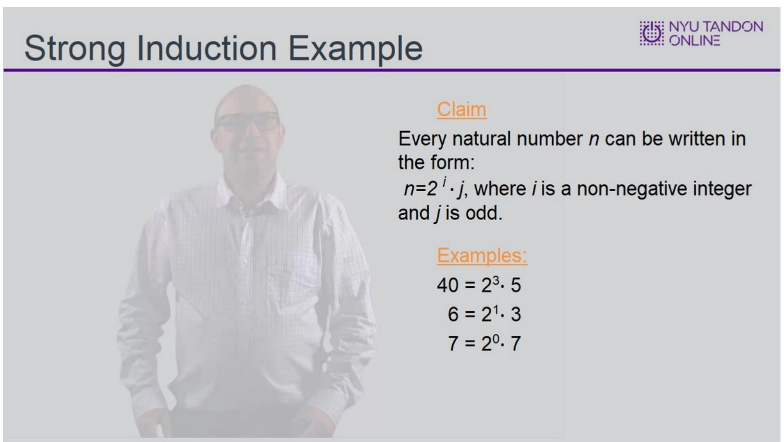
1.4 Walkthrough

Notes:

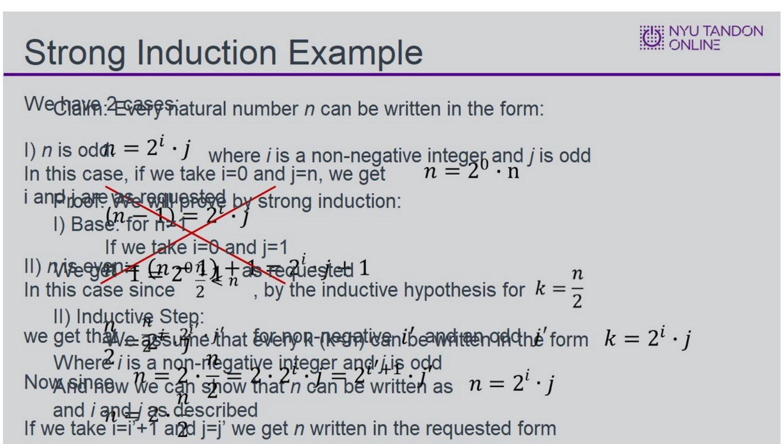
1.5 Strong Induction Overview



1.6 Strong Induction Example Part 1



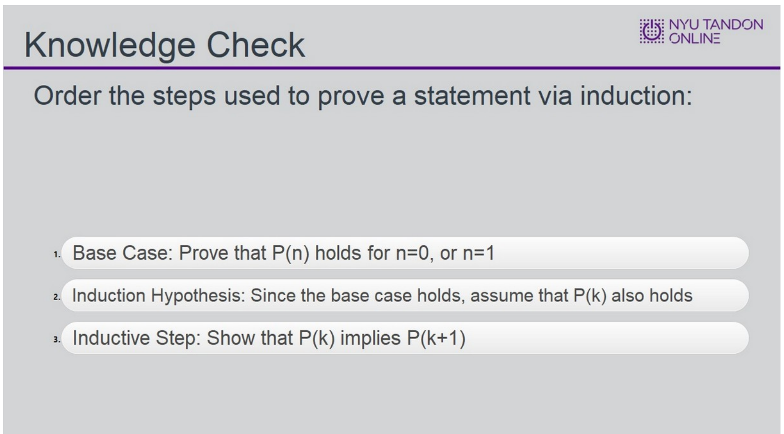
1.7 Strong Induction Example Part 2



Notes:

1.8 Knowledge Check

(Sequence Drag-and-Drop, 10 points, 4 attempts permitted)



Correct Order
Base Case: Prove that P(n) holds for n=0, or n=1
Induction Hypothesis: Since the base case holds, assume that P(k) also holds
Inductive Step: Show that P(k) implies P(k+1)

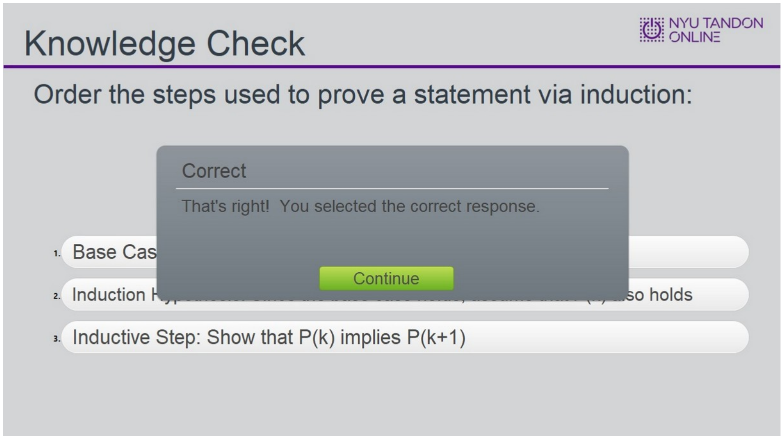
Feedback when correct:

That's right! You selected the correct response.

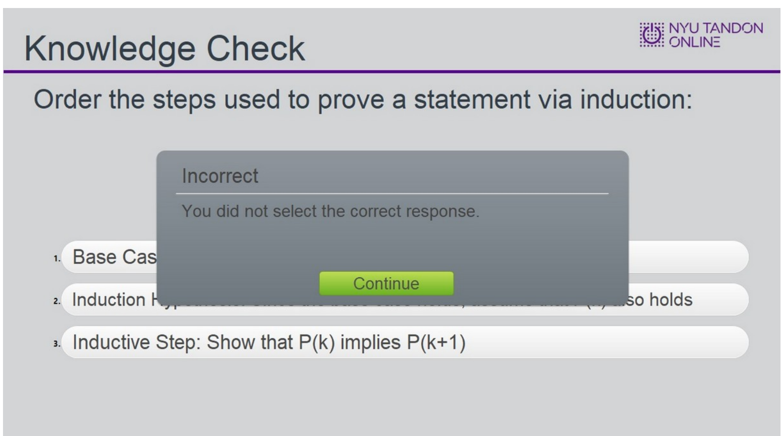
Feedback when incorrect:

You did not select the correct response.

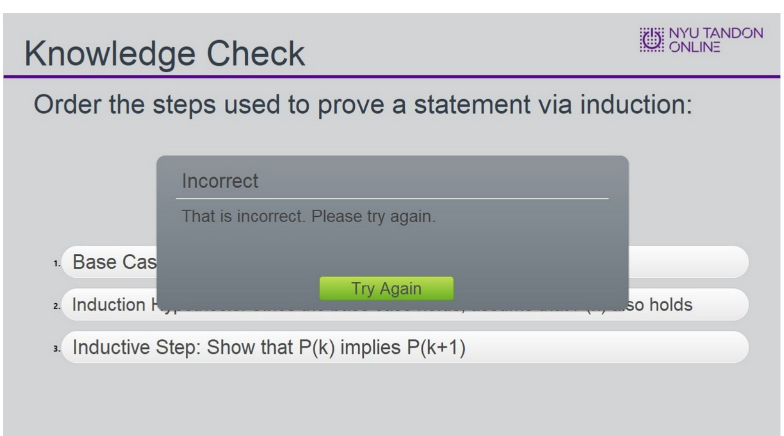
Correct (Slide Layer)



Incorrect (Slide Layer)

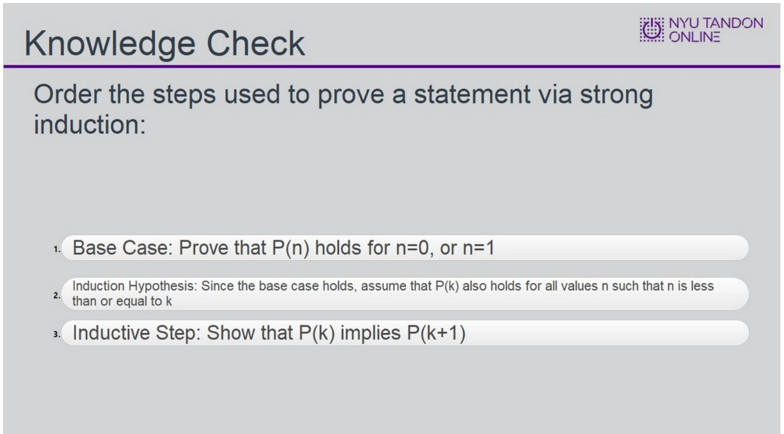


Try Again (Slide Layer)



1.9 Knowledge Check

(Sequence Drag-and-Drop, 10 points, 4 attempts permitted)



Correct Order
Base Case: Prove that P(n) holds for n=0, or n=1
Induction Hypothesis: Since the base case holds, assume that P(k) also holds for all values n such that n is less than or equal to k
Inductive Step: Show that P(k) implies P(k+1)

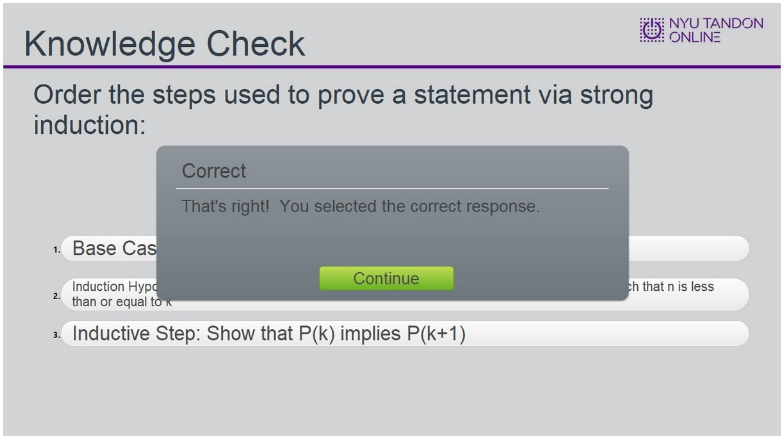
Feedback when correct:

That's right! You selected the correct response.

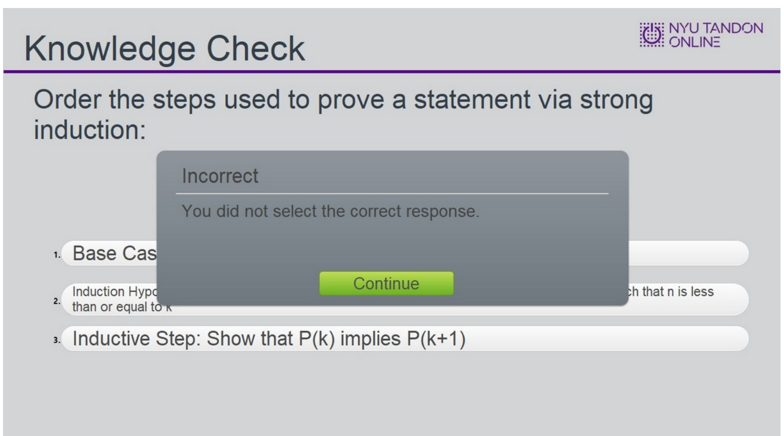
Feedback when incorrect:

You did not select the correct response.

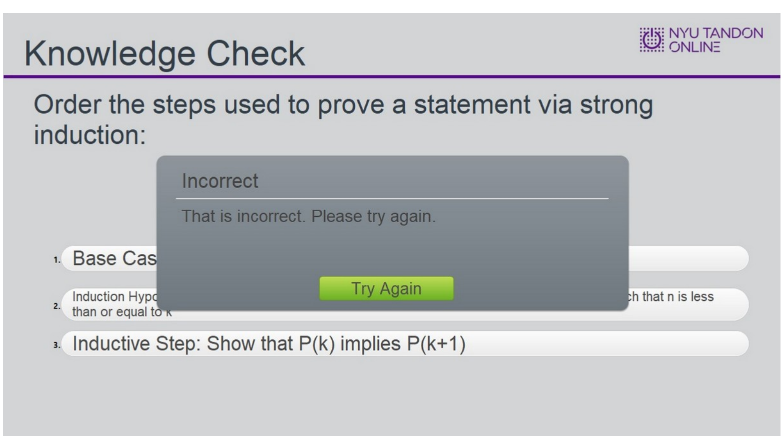
Correct (Slide Layer)



Incorrect (Slide Layer)

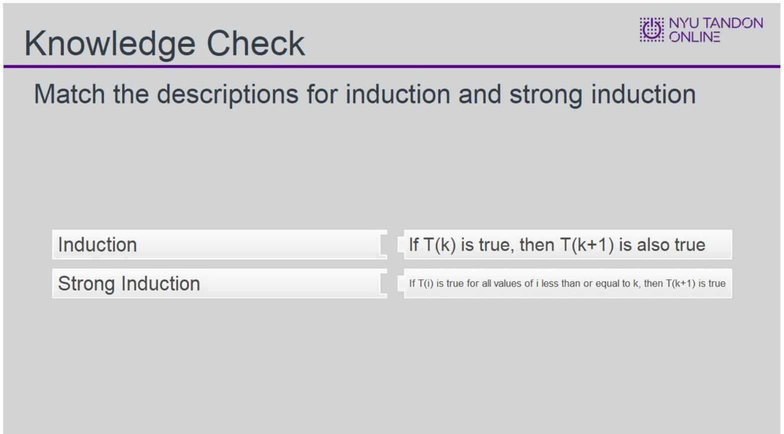


Try Again (Slide Layer)



1.10 Knowledge Check

(Matching Drag-and-Drop, 10 points, 2 attempts permitted)



Correct	Choice
Induction	If T(k) is true, then T(k+1) is also true
Strong Induction	If T(i) is true for all values of i less than or equal to k, then T(k+1) is true

Feedback when correct:

That's right! Regular (weak) induction only considers one case to imply the final case. Strong induction considers every iteration to imply the final case.

Feedback when incorrect:

You did not select the correct response.

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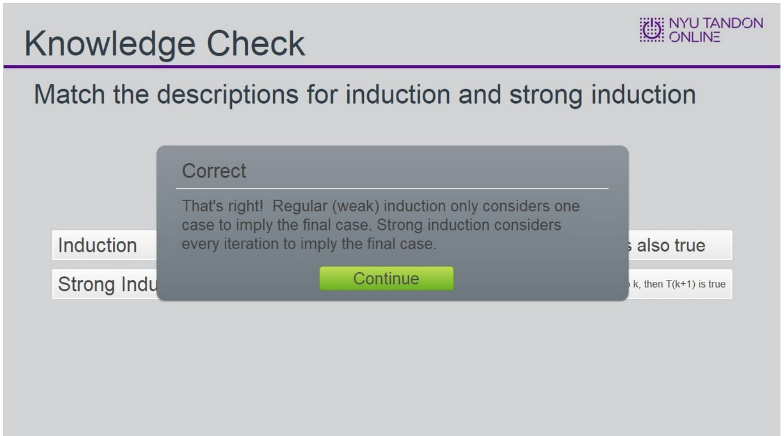
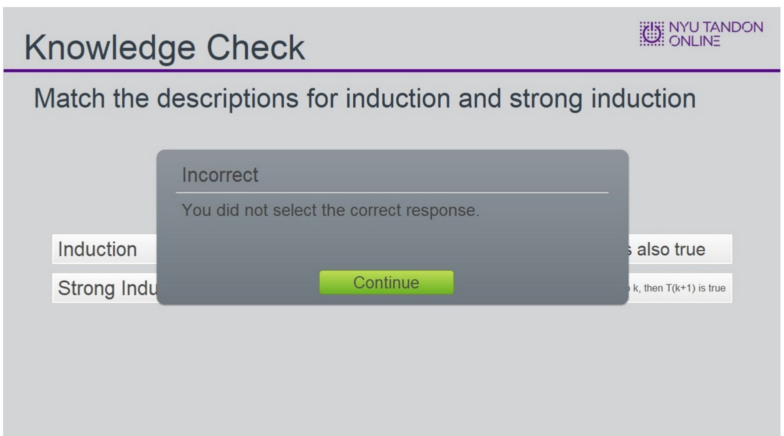
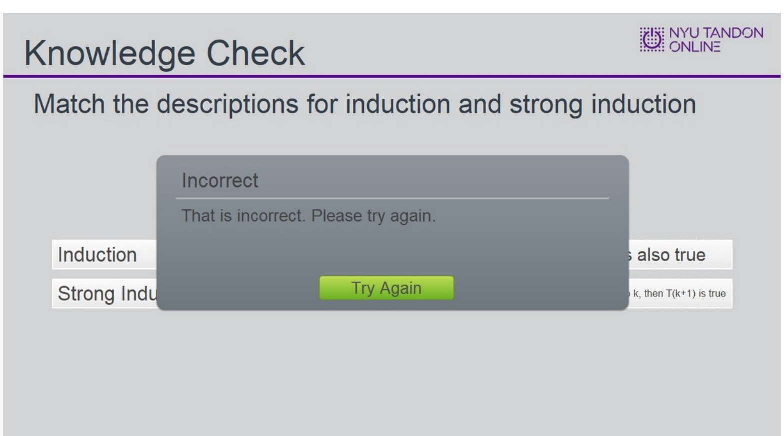
Correct (Slide Layer)



Incorrect (Slide Layer)

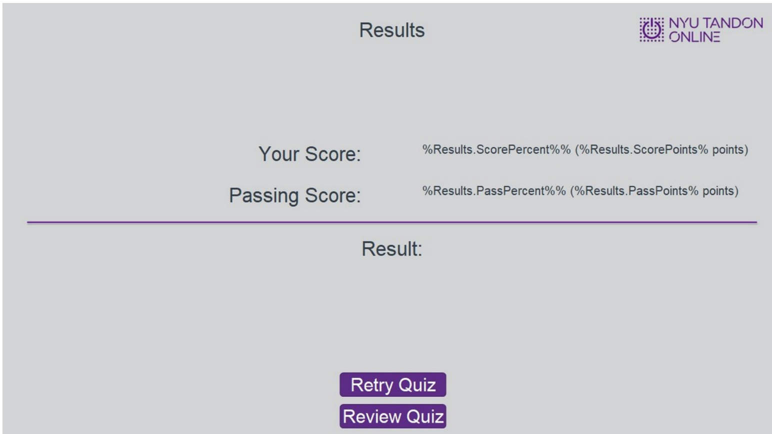


Try Again (Slide Layer)



1.11 Results Slide

(Results Slide, 0 points, 1 attempt permitted)

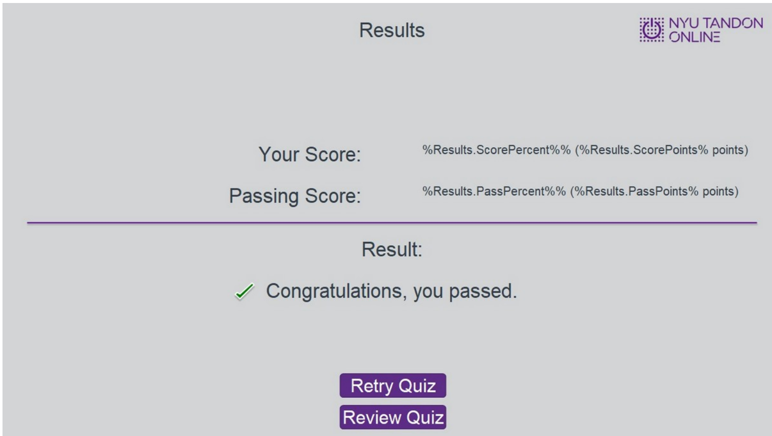


Results for
1.8 Knowledge Check
1.9 Knowledge Check
1.10 Knowledge Check

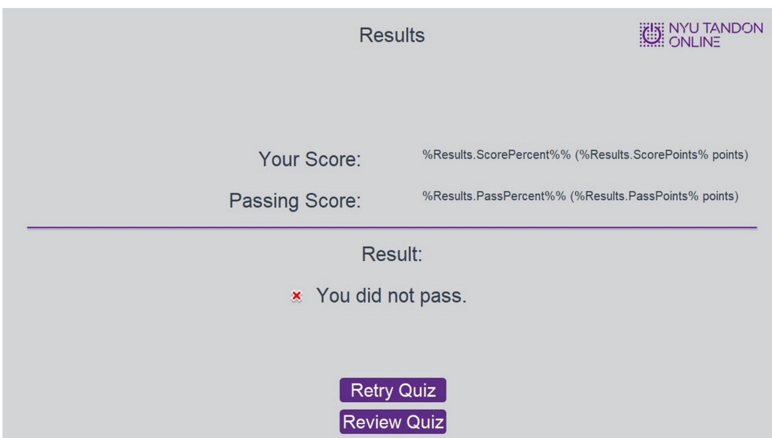
Result slide properties

Passing Score	80%

Success (Slide Layer)



Failure (Slide Layer)



1.12 End of Module