structureintro [Protected View] - PowerPoint

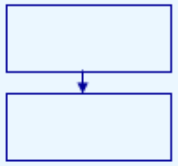
File Home Insert Design Transitions Animations Slide Show Review View Storyboarding Tell me... Sign in Share

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

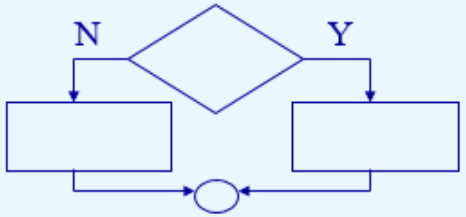
1 2 3 4 5 6 7

Programming logic involves three structures:

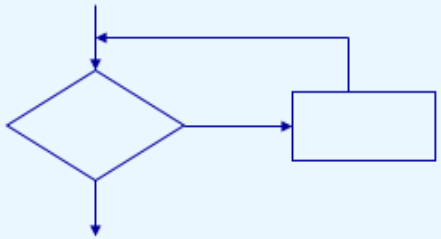
sequence structure



selection structure (conditions)



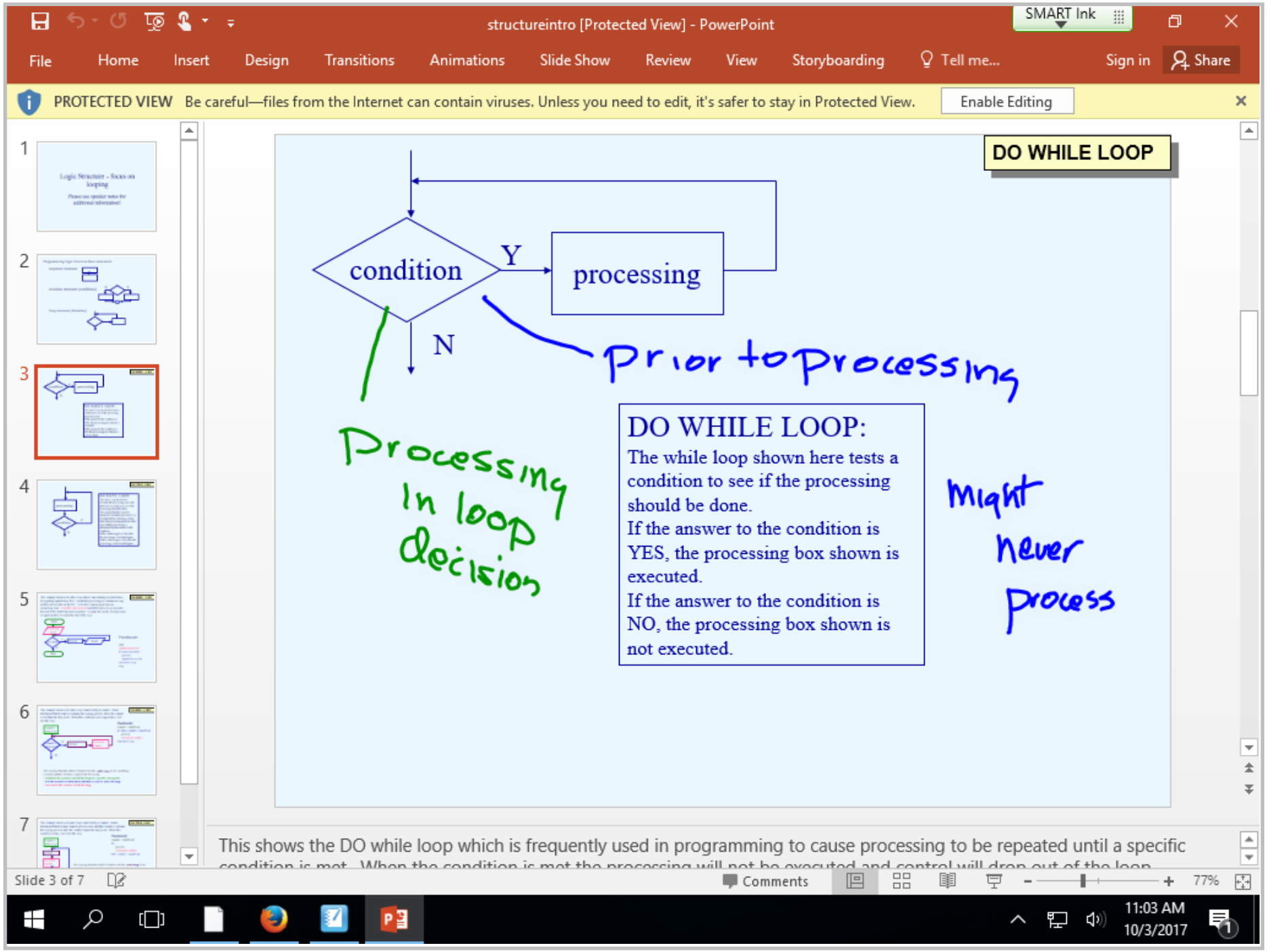
loop structure (iteration)



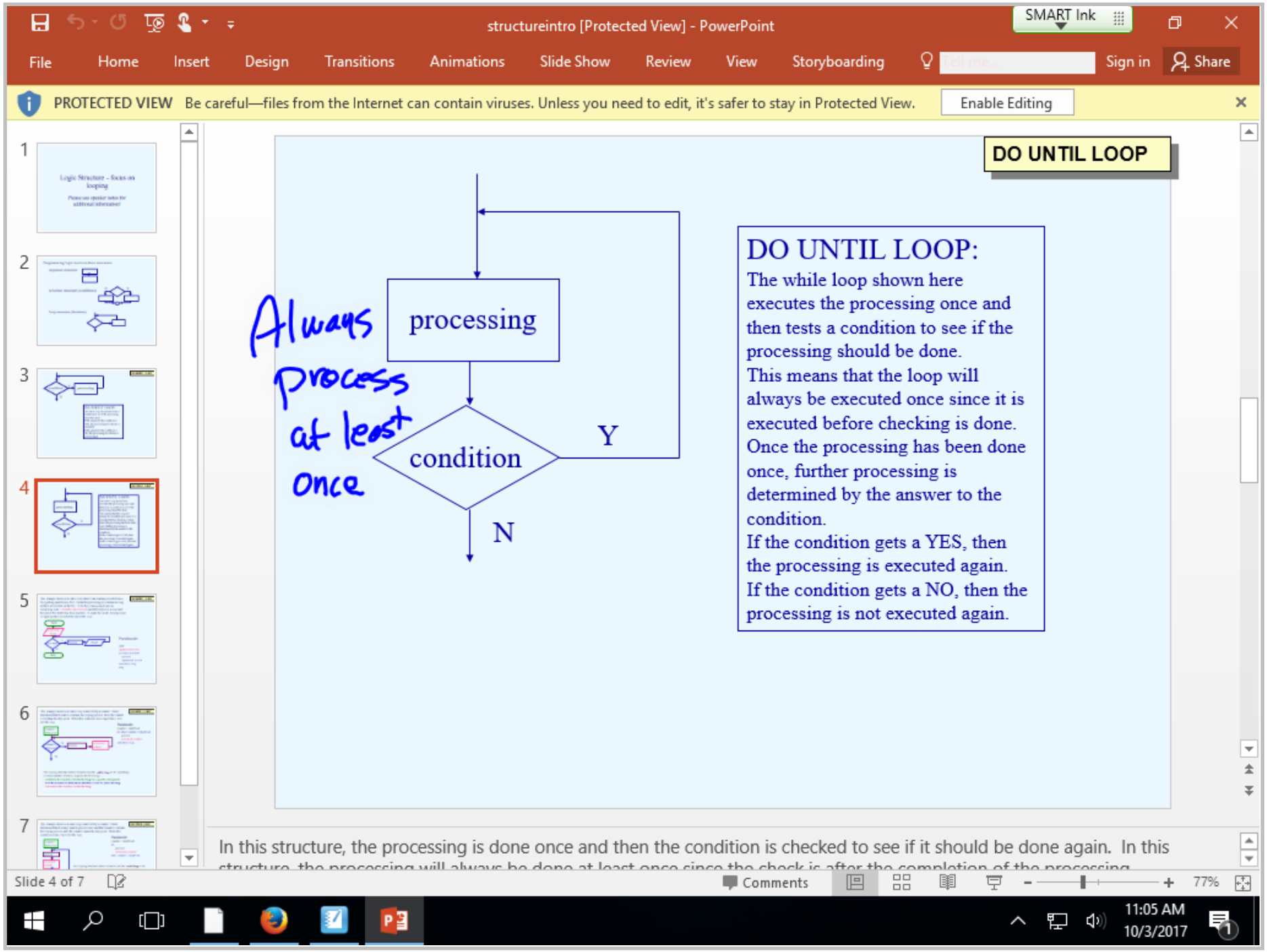
The three structures are all that is logically needed to write a procedural or structured program. All programming commands

Slide 2 of 7 Comments 77%

11:00 AM
10/3/2017



Title: Oct 3-11:03 AM (2 of 11)



Title: Oct 3-11:05 AM (3 of 11)

structureintro [Protected View] - PowerPoint

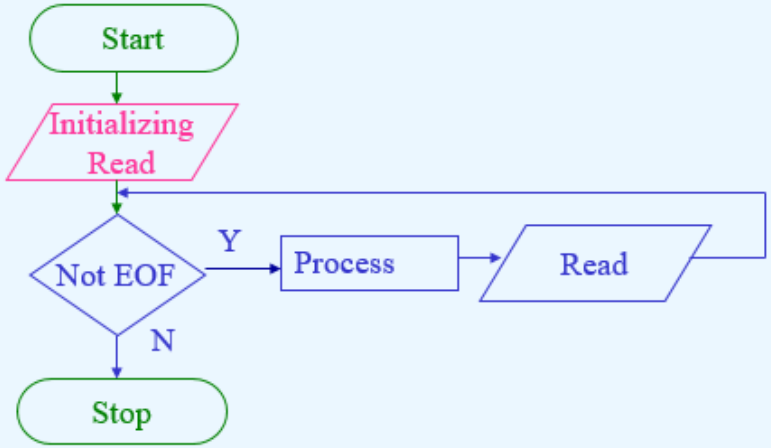
File Home Insert Design Transitions Animations Slide Show Review View Storyboarding Sign in Share

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

1 2 3 4 5 6 7

DO WHILE LOOP

This example shows a do while loop where I am reading records from a file (getting input from a file). I want the processing to continue as long as there are records on the file. To do this, I am going to use an initializing read. I read the initial record and then I process a loop until the end of file (EOF) has been reached. To make this work, I always read or input another record at the end of the loop.



Pseudocode:

```
start
input/read record
do while not EOF
   process
   input/read record
end while loop
stop
```

Note that I use the term initializing read, priming read is another term that can be used.

Slide 5 of 7 Comments 77%

11:07 AM 10/3/2017

Title: Oct 3-11:07 AM (4 of 11)

structureintro [Protected View] - PowerPoint

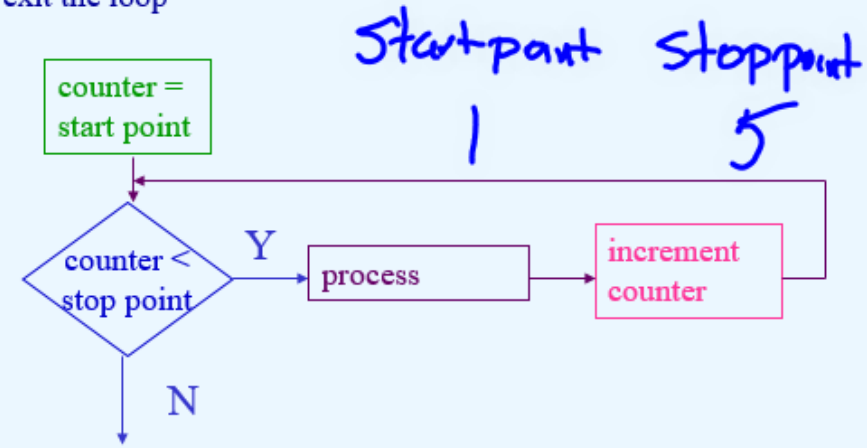
File Home Insert Design Transitions Animations Slide Show Review View Storyboarding Sign in Share

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

1 2 3 4 5 6 7

DO WHILE LOOP

This example shows a do while loop controlled by a counter. I have determined that I want to continue the looping process while the counter is less than the stop point. When this condition is no longer true, I will exit the loop



Pseudocode:

```
counter = startPoint
do while counter < stopPoint
    process
    increment counter
end while loop
```

Counter

The looping structure where I want to use the **while loop** to do something a certain number of times, requires the following:

- **initialize the counter outside the loop to a specific start point**
- **test the counter to determine whether or not to enter the loop**
- **increment the counter inside the loop**

In this slide, I am showing the specifics of the do while structure. I am using a counter to determine how many times I want to

Slide 6 of 7 Comments 77%

11:10 AM 10/3/2017

Title: Oct 3-11:10 AM (5 of 11)

- **initialize the counter outside the loop to a specific start point**
- **test the counter to determine whether or not to enter the loop**
- **increment the counter inside the loop**

When you write loops you need to initialize the control before the loop. So if counter is the control then I need to set up the memory variable counter and give it an initial value.
Then the loop will contain a test of the control that will let the loop end.
Finally I need to change the control within the loop, like adding 1 to counter.

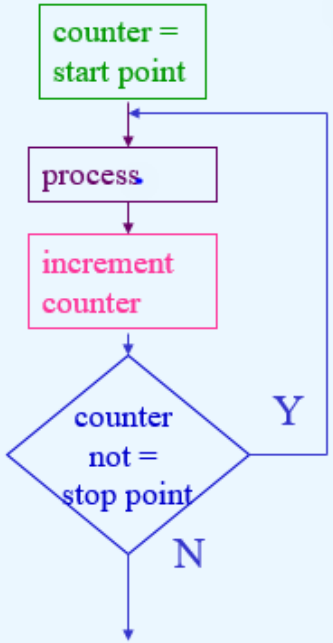
structureintro [Protected View] - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Storyboarding Sign in Share

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

DO UNTIL LOOP

This example shows a do until loop controlled by a counter. I have determined that I always want to process once and that I want to continue the looping process until the counter equals the stop point. When this condition is true, I will exit the loop



Startpoint 1 stoppoint 5

Pseudocode:

```
counter = startPoint
do
    process
    increment counter
until counter = stopPoint
```

counter 1 2 3 4 5

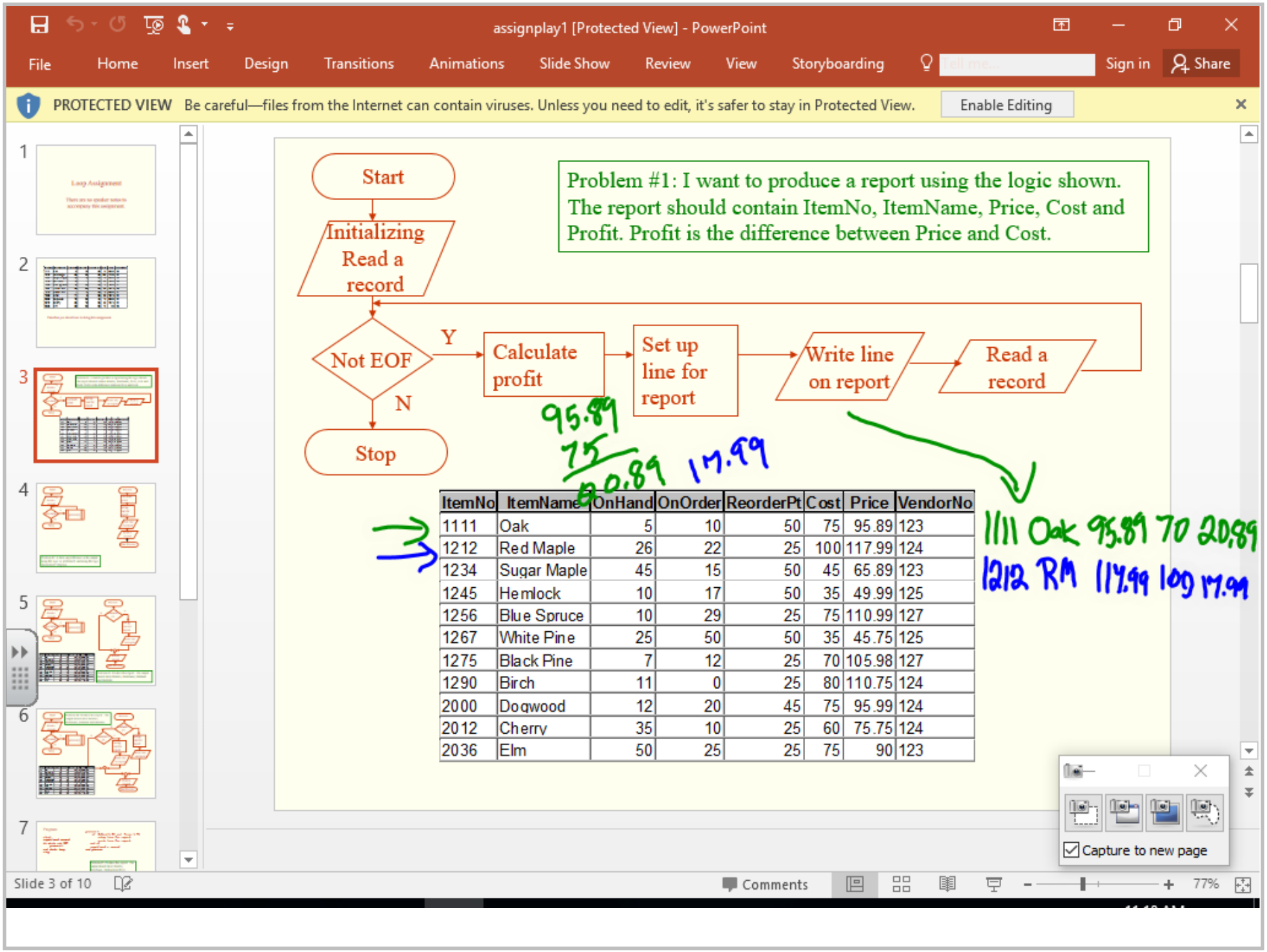
The looping structure where I want to use the **until loop** to do something a certain number of times, requires the following:

- **initialize the counter outside the loop to a specific start point**
- **process**
- **increment the counter inside the loop**
- **test the counter to determine whether or not to loop again**

In the do until loop, I will always process at least once. I think it is clearer when writing the pseudocode, to show the until

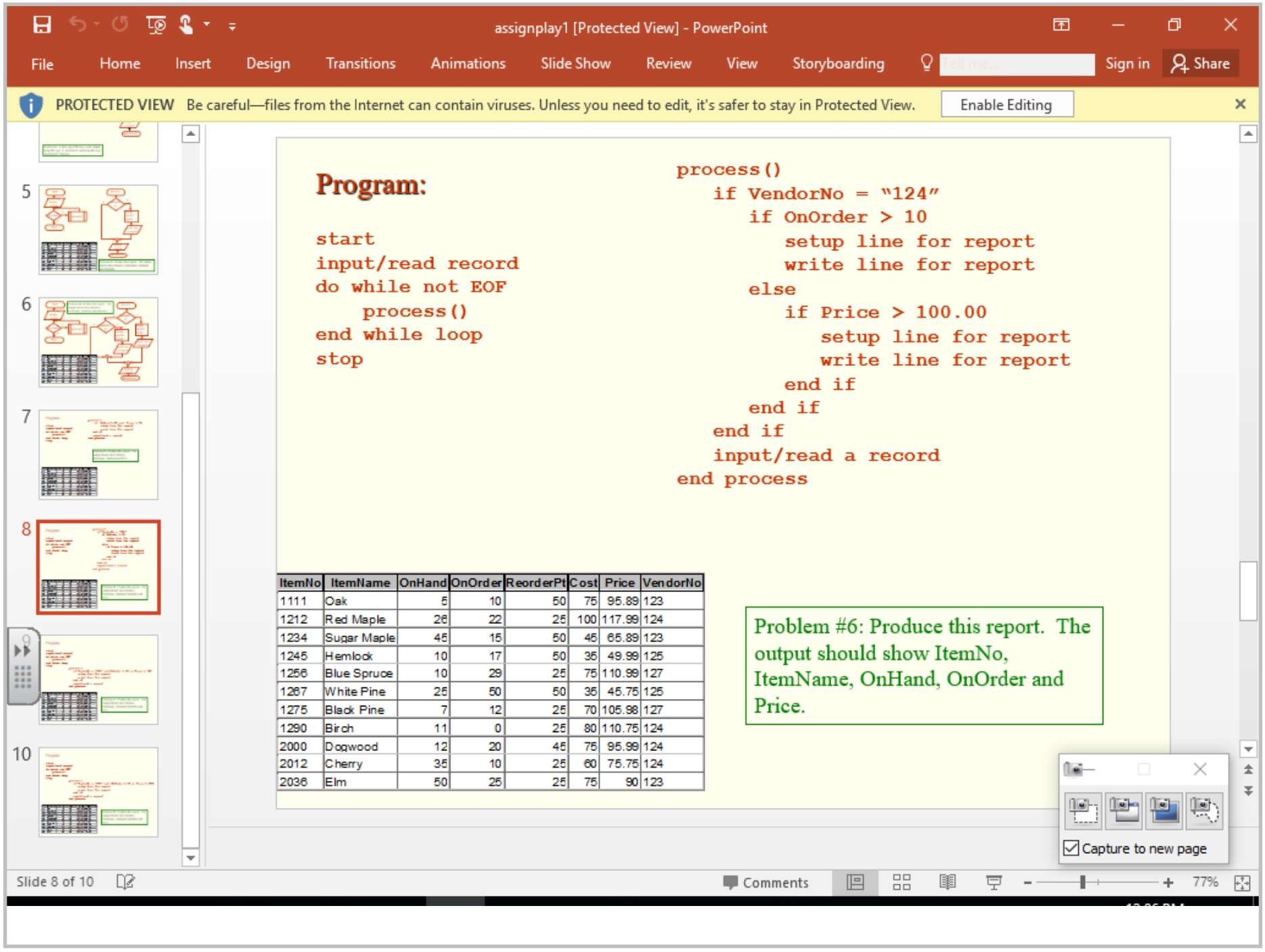
Slide 7 of 7 Comments 77% 11:13 AM 10/3/2017

Title: Oct 3-11:13 AM (7 of 11)

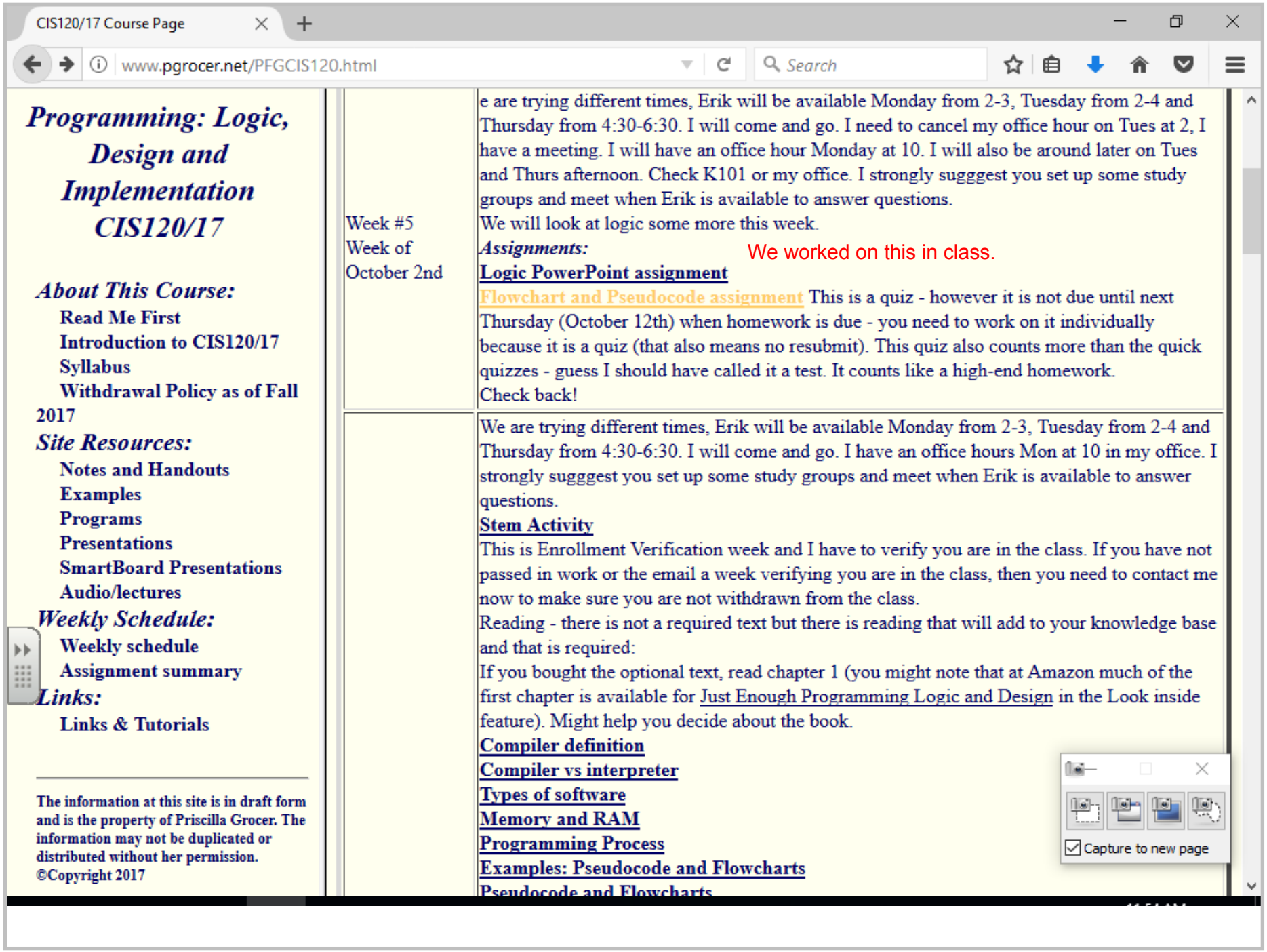


ItemNo	ItemName	OnHand	OnOrder	ReorderPt	Cost	Price	VendorNo
1111	Oak	5	10	50	75	95.89	123
1212	Red Maple	26	22	25	100	117.99	124
1234	Sugar Maple	45	15	50	45	65.89	123
1245	Hemlock	10	17	50	35	49.99	125
1256	Blue Spruce	10	29	25	75	110.99	127
1267	White Pine	25	50	50	35	45.75	125
1275	Black Pine	7	12	25	70	105.98	127
1290	Birch	11	0	25	80	110.75	124
2000	Dogwood	12	20	45	75	95.99	124
2012	Cherry	35	10	25	60	75.75	124
2036	Elm	50	25	25	75	90	123

Title: Oct 3-11:18 AM (8 of 11)



Title: Oct 3-12:06 PM (9 of 11)



Title: Oct 3-11:54 AM (10 of 11)

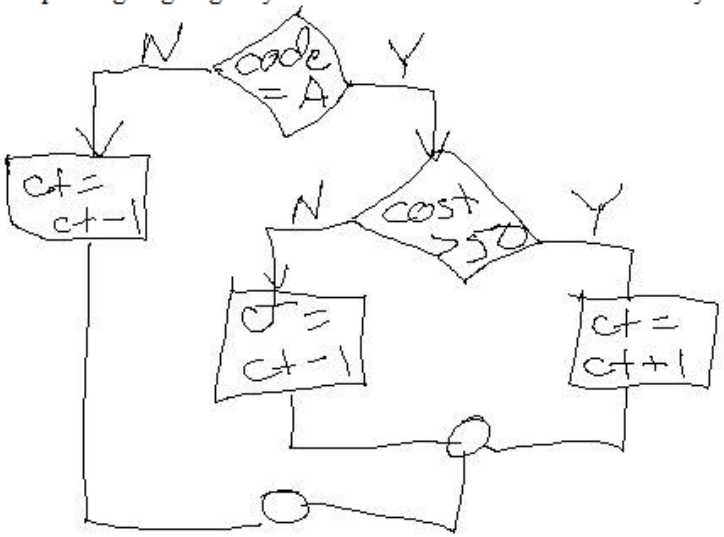
Logic Flowchart and Pseudocod

www.pgrocer.net/Cis17/assign/flowpseudoquiz1.html

Search

Logic Flowchart and Pseudocode Quiz

This quiz is going to give you a flowchart for a condition and ask you to answer questions about it.



Comment on the test

Problem #1: Assume the following:

- 1 will be put into the memory variable ct
- A will be put into the memory variable code
- 25 will be put into the memory variable cost

After following the logic in the flowchart, what will be in the memory variable ct?

Problem #2: Assume the following:

- the memory variable ct will contain your answer from problem #1
- A will be put into the memory variable code
- 100 will be put into the memory variable cost

After following the logic in the flowchart, what will be in the memory variable ct?

Problem #3: Assume the following:

Capture to new page