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### In Class Exercise on loops and if statements:

These are unrealistic problems, but they help to make sure that you understand the flow of logic and can follow it through to completion.

Problems #1:

```

start
  firstNum = 100
  secondNum = 5
  thirdNum = 12
  the Result = 0
  do while secondNum <= thirdNum
    if firstNum > 500
      firstNum = firstNum * 2
      secondNum = secondNum + 1
    else
      firstNum = firstNum + 100
      thirdNum = thirdNum - 1
    end if
  end while loop
  theResult = firstNum + secondNum + thirdNum
  display theResult
end
  
```

Initial values: 100    5    12    0

Iteration	firstNum	secondNum	thirdNum	theResult
1	100	5	12	0
2	200	6	11	4815
3	300	7	10	
4	400	8	9	
5	500	9	8	
6	600	10	7	
7	1200	11	6	
8	2400	12	5	
9	4800	13	4	

Problem #2:

```

start
  firstNum = 25
  secondNum = 50
  thirdNum = 75
  fourthNum = 100
  ct = 0
  workAns = 0
  theAns = 0
  do while ct < 6
    workAns = firstNum + secondNum
    if workAns > thirdNum
      fourthNum = fourthNum / 2
      firstNum = firstNum * 3
      secondNum = firstNum - secondNum
      thirdNum = thirdNum * 2
    else
      firstNum = firstNum + 10
      secondNum = secondNum + 10
      thirdNum = thirdNum + 10
    end if
    ct = ct + 1
  end do
  theAns = firstNum + secondNum * thirdNum + fourthNum
  display theAns
end
  
```

Handwritten values for Problem #2:

Iteration	firstNum	secondNum	thirdNum	fourthNum
1	25	50	75	100
2	75	100	150	50
3	225	150	300	25
4	675	225	600	12.5
5	2025	337.5	1200	6.25
6	6075	506.25	2400	3.125

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```

start
firstNum = 100
secondNum = 5
thirdNum = 12
theResult = 0
do while secondNum <= thirdNum
  if firstNum > 500
    firstNum = firstNum * 2
    secondNum = secondNum + 1
  else
    firstNum = firstNum + 100
    thirdNum = thirdNum - 1
  end if
end while loop
theResult = firstNum + secondNum + thirdNum
display theResult
end

Problem #2:
start
firstNum = 25
secondNum = 50
thirdNum = 75
fourthNum = 100
ct = 0
workAns = 0
theAns = 0
do while ct < 6
  workAns = firstNum + secondNum
  if workAns > thirdNum
    fourthNum = fourthNum / 2
    firstNum = firstNum * 3
    secondNum = firstNum - secondNum
    thirdNum = thirdNum * 2
  else
    firstNum = firstNum + 10
    secondNum = secondNum + 10
    thirdNum = thirdNum + 10
  end if
  ct = ct + 1
end do
theAns = firstNum + secondNum * thirdNum + fourthNum
display theAns
end
  
```

Handwritten notes and calculations:

firstNum	secondNum	thirdNum	fourthNum
25	50	75	100
35	60	85	50
105	45	170	25
115	55	180	
125	65	190	
135	75	200	
405	330	400	

Problem #2 calculations:

ct	workans	theAns
0	0	0
1	75	132430
2	95	
3	150	
4	170	
5	190	
6	210	

Final calculation:  $405 \times 132000 \times 25$

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Note that ct is part of the calculation so I take what is in ct and do something to it. This means when the result of the calculation is assigned to ct it is that change in ct that is saved.  
 Note that rsIt is not part of the calculation so when I assign the answer to rsIt it replaces what was there.

ct = ct + 1 adds to what is already in ct and increases ct  
 rsIt = ans1 + ans2 does the calculation and assigns the answer to rsIt replacing what was previously in rsIt

Practice exercise:

Payroll file: (each record is payRecord)

idno	name	payHr	regHrs	ovtHrs
1111	John Doe	20	40	10
1234	Ann Costa	25	40	0
2222	Linda Ryan	30	40	20
2345	Bob Smith	30	35	10
EOF				

```

start
  read payRecord
  do while not endOfFile
    if ovtHrs > 0
      regPay = payHr * regHrs
      ovtPay = payHr * ovtHrs * 1.5
      totPay = regPay + ovtPay
    else
      totPay = payHr * regHrs
    end if
    display totPay
    read payRecord
  end do while loop
stop program
  
```

Handwritten notes and calculations:

ct = ct + 1  
 rsIt = ans1 + ans2

regPay

800  
~~1000~~  
 1200  
 1050

ovt Pay

300  
 900  
 450

tot Pay

1100  
~~1000~~  
 2100  
 1500

1100  
 1000  
 2100  
 1500

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## Logic Quiz

I want you to play computer. Step through these problems and determine the result.

<pre>start var1 = 10 var2 = 20 wksum = 0 rslt = 0 do while var2 &lt; 30   wksum = var1 + var2   if wksum &gt; 30     var1 = var1 - 2     var2 = var2 + 1   else     var1 = var1 - 1     var2 = var2 + 3   end if end while loop rslt = var1 + var2 display rslt end</pre>	<p>Problem #1: When the pseudocode displays rslt, what number will rslt be?</p> <ol style="list-style-type: none"><li>1. rslt = 28</li><li>2. rslt = 29</li><li>3. rslt = 30</li><li>4. rslt = 31</li><li>5. rslt = 32</li></ol>
<pre>start var1 = 10 var2 = 20 wksum = 0 rslt = 0 do until var2 &gt; 30   wksum = var1 + var2   if wksum &gt; 30     var1 = var1 - 2     var2 = var2 + 1   else     var1 = var1 - 1     var2 = var2 + 3   end if end until loop rslt = var1 + var2</pre>	<p>Problem #2: When the pseudocode displays rslt, what number will rslt be?</p> <ol style="list-style-type: none"><li>1. rslt = 28</li><li>2. rslt = 29</li><li>3. rslt = 30</li><li>4. rslt = 31</li><li>5. rslt = 32</li></ol>

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Assignment Summary - Mozilla Firefox

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Assignment Summary

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## Summary of assignments:

Work is due the week after it is assigned unless I specify a different date in the assignment. Specifically I am looking for things to be passed in by Saturday at midnight on the week after the assignment is given.  
See the weekly schedule for details.

**Week #5 - Week of February 20, 2012 - Due by March 3, 2012 (by midnight)** This should have said February 20, 2012. I will change it.

1. Logic Assignment
2. Homework Quiz

**Week #4 - Week of February 13, 2012 - Due by February 25, 2012 (by midnight)**

1. First Quiz - due Thursday, Feb 16th at midnight
2. In class logic assignment - online students need to do the whole assignment, students in class can start at 16 since we worked on the others in class.
3. Flowchart assignment - draw the flowcharts - extra credit if they are done digitally using Powerpoint or another tool

**Week #3 - Week of February 6, 2012 - Due by February 18, 2012 (by midnight)**

1. Access Database on Softskills
2. Access group project using SQL (done in class on Feb 9th, students not there will be assigned to a group during the week)

**Week #2 - Week of January 30, 2012 - Due by February 11, 2012 (by midnight)**

1. Access Database on BCC Resources
2. Access group project (done in class on Feb 2nd, students not there will be assigned to a group during the week)

**Week #1 - Week of January 23, 2012 - Due by February 4, 2012 (by midnight)**

1. Survey
2. HTML page to introduce yourself

x