

HW1: CS 110X C 2013 [Revised Instructions At End]

Note: This homework is an **individual homework** and must be completed by each student individually. When you complete this assignment, you must not share your answers with any other student, not even your prospective programming partner for the remaining assignments.

Q1	Basic Expressions																		
<p>Skills</p> <p>PS-2 PS-10 DT-1 DT-2</p> <p>Lecture Dependency</p> <p>Jan-11</p>	<p>Let's get started with a question that you can answer after the first lecture. What is the value of each of these python expressions?</p> <table border="1"> <thead> <tr> <th>Python Expression</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>9 / 4</td> <td></td> </tr> <tr> <td>7 * 5</td> <td></td> </tr> <tr> <td>1 + 2*2 + 2</td> <td></td> </tr> <tr> <td>55/5</td> <td></td> </tr> <tr> <td>44/4+4/4+4/4</td> <td></td> </tr> <tr> <td>66/6+6</td> <td></td> </tr> <tr> <td>12+34/5+1</td> <td></td> </tr> <tr> <td>3**3-3-3/3</td> <td></td> </tr> </tbody> </table> <p>[ungraded] Do you see any pattern in the answers above?</p>	Python Expression	Output	9 / 4		7 * 5		1 + 2*2 + 2		55/5		44/4+4/4+4/4		66/6+6		12+34/5+1		3**3-3-3/3	
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Q2	Demonstrate computational ability		
<p>Skills</p> <p>PF-1 PS-1 PS-2 IO-1 SM-2 SM-3 DT-1 DT-2</p> <p>Lecture Dependency</p> <p>Jan-11</p>	<p>Write a Python module that defines a function called <code>wordProblem</code>. This function must actually perform the following computation that you would do by hand, otherwise you will not receive full credit for this question.</p> <p><i>Boston and New York city are 200 miles apart by train. A train leaves Boston for New York at 50 miles per hour. At the exact same time a train leaves New York for Boston at 70 miles per hour. When they meet, exactly how many minutes have elapsed?</i></p> <p>The output must be a single line of the form "The trains meet after T minutes" where instead of T you output the actual value. <i>Hint: Use String Concatentation For Output</i></p> <table border="1"> <thead> <tr> <th>Sample Output</th> </tr> </thead> <tbody> <tr> <td> <pre>>>> wordProblem() The trains meet after 100 minutes</pre> </td> </tr> </tbody> </table>	Sample Output	<pre>>>> wordProblem() The trains meet after 100 minutes</pre>
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Q3	Debugging Skills On Display								
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Skills									
DG-1									
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Q4	Demonstrate input abilities					
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Skills						
PF-1						
IO-1						
SM-2						
SM-3						
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Q5	Demonstrate ability with for loop							
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Q6	Demonstrate computations							
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Skills								
PF-1								
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Homework TurnIn Specification **[Modified As Mentioned In Class]**

You will submit a single Python module called `HW1.py` which must include comments that declare the name of the assignment, question and author. For example,

```
# HW1. Question Q1
# Author: George Heineman (user id)
...
```

You will submit this assignment using **turnin**. Instructions are available on the class website. For this particular assignment, you **must** submit a single `HW1.py` file that contains text answers for Q1 and Q3. It will contain four functions as defined to satisfy Q2, Q4, Q5 and Q6.

Use the template file that I provide at the following link:

http://web.cs.wpi.edu/~heineman/html/teaching/_cs110x/c13/HW1.py

A Detailed point-by-point rubric will be posted for the homework on the class web site 1/12/2013.