Name _____

CPADS Lab Activity #7
CPADS and the Quest for the Logic in the Holy Grail
Part 1: We Found a Witch – May We Burn Her?

Students of CPADS – you shall have a task to make yourselves an example in these dark times. Behold! Below are links to the *Witch Scene* from *Monty Python and the Holy Grail*. It is your sacred task to seek the logic from within that scene. That is your purpose - the Quest for the Logic in the Holy Grail.

YouTube video: https://www.youtube.com/watch?v=k3jt5ibfRzw

Script: http://www.montypython.net/scripts/HG-witchscene.php

Watch the video clip, and then review the script. Sir Bedevere asks the villagers many questions, to which they provide responses. Except for one instance, he does not proceed to the next question, or the next portion of his argument, until he has received correct input from the villagers (or King Arthur, in one case).

Your initial task is to identify as many logical conditions in the scene as you can. Those conditions will include the questions, correct answers, decisions, and conclusions that Sir Bedevere, King Author, and the villagers make.

As you watch the video, and read the script, you should be identifying the following instances that occur in the scene:

1) Identify all of the logical statements that lead the villagers to eventually conclude that if a person weighs the same as duck, they must be made of wood, and therefore, a witch.

2) Identify all of the potential "user input", and the corresponding "while" loops that would need to be composed in order for that user input to be "validated". Validation, in this case, means that the user supplies the appropriate response such that Sir Bedevere moves on to his next question or statement. Note that there is at least one case where Sir Bedevere does not wait for a correct answer from the villagers, but rather he accepts a certain # of responses, and then moves on to his next question.

3) Identify at least one circumstance where boundary conditions need to be established for a standard value when compared to a user measurement.

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As an example of user input and validation, early in the scene, Sir Bedevere has the following exchange with the villagers:

BEDEVERE: And what do you burn apart from witches?
VILLAGER #1: More witches!
VILLAGER #2: Wood!

Sir Bedevere is waiting for the correct answer, and keeps accepting input from the villagers, until he receives the answer "wood". That is an example of user input being validated inside a **while** loop. Until the **while** condition fails, the code inside the **while** loop is repeatedly executed.

In Python, that would look like this:

```
answer = "none"
while (answer != "wood"):
   answer = input("And what do you burn apart from witches?"
```

It is NOT your task (yet) to convert your findings into Python code – we will do that later. Your task, at this point, is to identify the portions of the scene that:

1) List the possible characteristics of a witch, each could eventually require a Boolean variable (find at least 8 of these).
2) Require user input and validation of that user input – these will eventually become **while** loops to request repeated user input until an acceptable answer is supplied (find at least 7 of these).
3) Require user input, but that breaks out of validation, based on a maximum # of incorrect answers (find at least one of these).
4) Require implementation of logical decisions based on user input using the Boolean values identified in 1) above (find at least 5 of these).
5) Require decisions based on a range of values (find at least one of these).

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	1. Characteristics of a Witch
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2	
3	
4	
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7	
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10	

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	2. Requires user input: breaks out after correct answer
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

	3. Requires user input: breaks out after maximum# of responses
1	
2	
3	

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	4. Requires logical decisions based on user input
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

	5. Requires bounds checking on user input
1	
2	
3	