

Unit 2 Competency Demo, Version 1

- Either type or hand-write your responses to the following questions.
 - You may refer to your notes and the class documents we created when completing this competency demo.
 - You should not discuss this CD with other people (especially classmates) until after you have submitted your answers on Monday, March 28th.
1. When we talk about "good code" we often talk about the appropriate use of white space. What do we mean by that? In your discussion please make sure to discuss (or give an example) of a good use of white space and also a bad use of white space.
 2. When we talk about "good code" we often talk about the use of functions to provide **abstraction** and/or **modularization**. What do we mean by those terms? In your discussion please make sure to give some examples (either in a description or in actual code) of how using functions addresses these ideas.
 3. One of the things that new programmers struggle with is when and how to use a loop in order to reduce/eliminate duplicate code. Discuss an example program that you could use with students where they might be inclined to write a long block of code when a simple loop could solve the same problem. [Note, please do NOT pick an example that we have already used in the last couple of weeks such as the Super Bowl or the Farkle programs. Identify something new.]
 4. Why would this be considered "bad" code? How could you "fix" it?

```
def contains(lyst, item):
    flag=False
    for index in range(6):
        if lyst[index]==item:
            flag=True
    if flag==True:
        return 1
    else:
        return 0
```

5. Why would this be considered "bad" code? How could you "fix" it?

```
def classification(score):
    if score>50:
        if score>75:
            return "Group 1"
        else:
            return "Group 2"
    else:
        if score>75:
            return "Group 3"
        else:
            return "Group 4"
```