

CSI 33 Lecture 5
In-class practice

1) For the following function, underline the specification and circle the signature.

```
def do(a,b,c):  
    """ finds and returns the product of a, b, and c  
    pre: a, b, c are positive integers,  
    post: returns a product of a, b, and c """
```

2) Write an interface for a function that finds the sum of squares of the first n positive integers, i.e. $1^2+2^2+3^2+\dots+n^2$. The user/client will input/provide the value on n.

3) (from programming exercise 8)

Design a quiz program. The program should read a question and answer information from a file.

For example, a state capital quiz would contain the state and its capital on each line (e.g. Ohio:Columbus).

Your program should ask a fixed number of questions and output the number of correct answers. Create at least three functions in your design.

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Answer:

in Python:

```
def sumOfSquares(n):  
    """ finds the sum of squares of the first  $n$  positive integer values  
    pre:  $n$  in integer  $> 0$   
    post: returns the sum of squares of the first  $n$  positive integer  
values """
```

In C++:

```
double sumOfSquares(int n):  
    """ finds the sum of squares of the first  $n$  positive integer values  
    pre:  $n$  in integer  $> 0$   
    post: returns the sum of squares of the first  $n$  positive integer  
values """
```

3) Answers vary!

However, check if you did the following:

- ✓ your design has at least three functions
- ✓ each function has a specification that contains preconditions, postconditions and any side-effects you think this function might generate
- ✓ the signatures state what is expected for parameters.