YOUR NAME: _____

RCS ID: _____

Your RCS ID is the first part of your RPI e-mail address

Principles of Software Quiz 3

September 27, 2018

10 points total

Question 1. (6 pts) Consider the specifications below. The argument is an int.

Spec A: returns: an int $\geq$ its argument
Spec B: returns: a non-negative int $\geq$ its argument
Spec C: returns: argument + 1
Spec D: returns: argument^2

and the return statement from the implementations:

Impl 1: return abs(arg); _____
Impl 2: return arg+5; _____
Impl 3: return arg*arg; _____

for each implementation, indicate which specification it satisfies. If it does not satisfy any of the specs, write none.

Question 2. (2 pts) Consider specifications A and B below.

```
Spec A:
requires: true
returns:  an int in [2..5]
```

```
Spec B:
requires: int [1..10]
returns:  an int in [1..20]
```

Which is true:

(a) A is stronger than B.
(b) B is stronger than A.
(c) Neither is A stronger than B nor is B stronger than A.

Question 3. (2 pts) All other things being equal, you can strength a specification by strengthening its precondition.

(a) True
(b) False