Assignment 2 CSSE3100/7100 Reasoning about Programs

Personal feedback ***Mohammad Faiz Ather***

General feedback: If you layout proofs as assert statements, it does **not** show the full knowledge base, including statement rule applications, which explains most of the missing marks in this feedback form. We were not demonstrating Dafny in the tutorial to prevent this from happening.

(a) Proof of ComputeFusc

Weakest precondition proof (without termination) (6 marks): A comment saying that method precondition implies calculated precondition should be added. No marks lost here but it might not be the case in the exam.

The numbers below refer to the indicated lines in the sample solution. Each is worth 0.5 marks.

1	✗	Missing precondition match
2	✗	Missing invariants & loop guard condition match
3	✓	
4	✓	
5	✓	
6	✓	
7	✓	Missing reasoning about d – repeated error
8	✓	
9	✓	
10	✓	
11	✗	Missing reasoning about variable d
12	✗	No mentioning of strengthening.

Your mark: *4*

Termination (2 marks) :

1^T	✓	
2^T	✓	
3^T	✗	Missing statement rule application
4^T	✗	A well-defined comparison with integer – requires d >= 0 as well

Your mark: *1*

(b) Derivation of ComputePos ✗

Derived code (3 marks):

1^C	✓	
2^C	✓	
3^C	✓	
4^C	✓	
5^C	✓	
6^C	✓	

Your mark: *3*

Weakest precondition reasoning (4 marks) :

1	✓	
2	✓	
3	✗	Missing invariants & loop guard condition match
4	✓	
5	✓	
6	✓	
7	✗	Missing invariant
8	✗	No mentioning of strengthening

Your mark: *2.5*

Total mark: *10.5*