# **CSSE1001: Sem. 2 2012 exam answers**

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### If you are confident that your answer is correct, then just type it in red below each question.

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1 a

2 b (integer division is always rounded down)

3 b

4 d

5 d

6 b

7 b

8 c

9 d

10 c

(Work from left to right when using . methods. So first join the list x with :. You get: '1:2:3::4'. Then split this on : but split only three times going from left to right. Split once you get ['1', '2:3::4'], split twice you would get ['1', '2', '3::4'], split thrice: ['1', '2', '3', ':4'].)

11 c

(Reassignment (eg. y = y + [1]) creates a new object and assigns the variable name to it. This is different to y.extend([1]). Here y references to the same place as before the extend was done.)

12 d

(d[‘ccc’] throws error as no key name ‘ccc’)

13 d

(error thrown when trying to concat list and None types)

14 a

15 c

(Note: as opposed to 10, the function f modifies ‘in place’. This is crucial, as Python passes by reference.)

16 b

17 a (See <https://gist.github.com/jgat/5e249f3a1da189d8f9e8#file-2012-2-q17-md>)

18 d

19 a

20 e

21 b

22 b

23 c

24 d

(Line 1 adds all the marks to get a total mark. Just need to be careful with list splicing)

25 a

(Line 2 writes out the line of marks (now including the total mark) onto the output file)

26 c (note: loop invariant is wrong)

27 d

28 d

29 c

30 b

31 a

32 b

33 d

34 c

35 c

36 b

37 d

38 b

(You can think of it this way: if you double the size of the list then you increase number of iterations by one (this is because you would need to do one more division of mid = (hi+low)/2 in the worst case scenario). So you would have something like: increase of list by 2^n then time complexity increases by n. This is mathematically equivalent to: increase list by n then time complexity increases by log n base 2. (2^n = n <--> log(2^n) = log(n) <--> n\*log(2) = log(n) <--> n = log(n) working in log base 2).)

39 c

40 c