

## 22C:16 Practice for Quiz 7

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Try to solve these problems without using the Python shell. Then you can check your solutions by executing these expressions at the Python shell. If you are not quite sure why an expression evaluates to a particular value, please ask the professor or one of the TAs.

1. What does each of the following expression evaluate to? Assume that in Part (c), the function `even` is a boolean function that evaluates to `True` when `n` is even. Assume that in Part (h), the function `isLetter` returns `True` if the given character is a letter in the English alphabet.

- (a) `map(bool, [12, 0, -1, 0.0, "test"])`
- (b) `filter(math.floor, [1.4, 0.3, -0.24, 1.78])`
- (c) `filter(even, 3*range(10))`
- (d) `map(sum, [[1,2,3], [2,3,4], [3,4,5]])`
- (e) `map(range, range(5))`
- (f) `map(sum, map(range, range(10)))`
- (g) `map(len, "hello, how are you?".split())`
- (h) `filter(isLetter, "hello123hor are you")`
- (i) `map(letter, "What??")`
- (j) `map(range, (map(len, ["hello", "how", "are", "you"])))`

2. What does each of the following expression evaluate to? Suppose that `L` is the list `["These", "are", "a", "few", "words", "that", "we", "will", "use"]`.

- (a) `L[1:4:2]`
  - (b) `L[::3]`
  - (c) `L[len(L)-1]`
  - (d) `L[3:4]`
  - (e) `L[3:4][0]`
  - (f) `L[3:4][0][2]`
  - (g) `L[:len(L)-4]`
  - (h) `L[0][1:]`
  - (i) `L[0] + L[1] + L[2]`
  - (j) `L[0:2] + L[4:6]`
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