

## CS:1210 Practice Problem Set 7

Morning Section: Complete before Tuesday, March 25th

Evening Section: Complete before Wednesday, March 26th

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- This problem is on generating lists. Evaluate the following expressions.
  - `range(10)`
  - `range(10, 50, 5)`
  - `range(10, 50, 5)[:3]`
  - `range(10, 50, 5)[2::2]`
  - `range(10, 100, 7)[3:10:3]`
  - `range(10, 7)`
  - `range(10, 10)`
  - `"copyright"[:4]`
  - `"copyright"[5::2]`
  - `"mathematics"[::-1]`
  - `range(10)*2`
  - `range(5)*2`
  - `[range(5)]*2`
- Suppose that the list `L` equals `[100, ["hello", "bye"], 1000, [[1, 2], [2, 3], [3, 4]], 1000, 900L]`. Evaluate the following expressions.
  - `L[3:4]`
  - `L[3:4][0]`
  - `L[3:4][0][:1]`
  - `L[3:4][0][:1][0]`
  - `L[3:4][0][:1][0][:1]`
  - `L[3:4][0][:1][0][:1][0]`
  - `L[1::2]`
  - `L[1::2][0]`
  - `L[1::2][0][0]`
  - `L[1::2][0][0][::-1]`
- Suppose that `L` is assigned `range(1, 10, 2)*2`. Write down the value of `L` after each of the following Python statements is executed. Assume the same value of `L` (the one given above) prior to each statement execution.
  - `L[1:3] = [10]`
  - `del L[1:5:2]`
  - `L.remove(9)`
  - `L[1:5:2] = ["ok", "bye"]`
  - `L[:5] = range(2)`

4. Evaluate the following expressions.

- (a) `range(10)*3.count(1)`
- (b) `range(10)*3.index(7)`
- (c) `range(10)*3[5:].count(4)`
- (d) `range(10)*3[5:].count(7)`
- (e) `range(10)*3[5:].index(7)`
- (f) `range(10)*3[1::2].index(2)`
- (g) `range(10)*3[1::2].index(3)`

5. Evaluate the following expressions.

- (a) `max(range(6) + range(6)[::-1])`
- (b) `sum(range(6) + range(6)[::-1])`
- (c) `len(range(6) + range(6)[::-1])`
- (d) `range(6).index(max(range(6) + range(6)[::-1]))`
- (e) `(range(6) + range(6)[::-1]).count(5)`
- (f) `(range(6) + range(6)[::-1]).index(5)`

6. Evaluate these expressions.

- (a) `" San Francisco".startswith("San")`
  - (b) `" San Francisco".strip().startswith("San")`
  - (c) `" San Francisco ".rstrip().startswith("San")`
  - (d) `" San Francisco ".strip().startswith("san")`
  - (e) `" San Francisco ".lower().strip().startswith("san")`
  - (f) `" The future of technical communication is the world wide web. --- Leslie Lampport".split()`
  - (g) `" The future of technical communication is the world wide web. --- Leslie Lampport".split()[4]`
  - (h) `" The future of technical communication is the world wide web. --- Leslie Lampport".split()[1:6:2]`
  - (i) `" San Francisco ".split(",")`
  - (j) `"all,is,well,,that,ends,,well".split(",")`
  - (k) `".join("all,is,well,,that,ends,,well".split(","))`
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