

COMP 110

Spring 2022

Class 11 - Lists Practice

Today's Goals

1. Announcements
2. Practice and review lists and diagrams

Announcements

- Required Course Survey: <https://bit.ly/comp110-survey-22s>
- Reading 0: Releases this afternoon, due March 11th
- Exercise 5: Releases this afternoon, due February 23rd
- Quiz 1: Median 83, Mean 77
 - Diagnostic of places where you should invest time understanding concepts
 - Not satisfied with your performance? Please come work through missed questions with us in office hours or tutoring!
- CS Major Admissions Information Session Tonight on Zoom at 7:30pm
 - Link found on cs.unc.edu/undergraduate

Challenge Question #1

```
1  """List diagram example."""
2
3
4  a: list[str] = ["one"]
5  b: list[str] = a
6  a.append("two")
7
8  print(b[1])
```

Challenge Question #2

```
1  """Lists and functions."""
2
3
4  def dup(xs: list[int]) -> None:
5      """Duplicate a list's values."""
6      start_len: int = len(xs)
7      i: int = 0
8      while i < start_len:
9          xs.append(xs[i])
10         i += 1
11
12
13  nums: list[int] = [10, 20]
14  dup(nums)
15  print(nums)
```

Challenge Question #3

```
1  """Example producing a function."""
2
3
4  def odds(min: int, max: int) -> list[int]:
5      """Construct list of odds, inclusive."""
6      xs: list[int] = list()
7      i: int = (min // 2) * 2 + 1
8      while i <= max:
9          xs.append(i)
10         i += 2
11     return xs
12
13
14  ys: list[int] = odds(3, 6)
15  print(ys)
```

Follow-along: Implementing a `contains` Function

- Let's implement a function where we can call with 2 arguments:
 1. a "**needle**" value we are searching for
 2. a "**haystack**" list of values we are searching in
- The return value of the function should be True iff the **needle** is found in the **haystack** at least once and False otherwise
- The name of the function will be **contains**