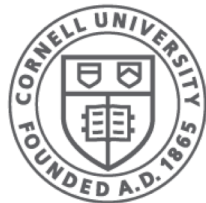


<http://www.cs.cornell.edu/courses/cs1110/2018sp>

# Lecture 21: Programming with Subclasses

CS 1110

Introduction to Computing Using Python



**Cornell CIS**  
COMPUTING AND INFORMATION SCIENCE

[E. Andersen, A. Bracy, D. Gries, L. Lee, S. Marschner, C. Van Loan, W. White]

# Announcements

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- Lab 12 is out.
- Prelim 2
  - Tuesday, April 24<sup>th</sup>, 7:30-9:00pm
  - Please go to the correct room for your NetID (see webpage)
  - Prelim SDS accommodations or makeup requests: if haven't heard from JLS478 confirming time by today (Tues) noon, and haven't heard from cs1110-prof that we're working on it, contact cs1110-prof@cs.cornell.edu & cc: [JLS478@cornell.edu](mailto:JLS478@cornell.edu).
  - **“Just the Facts” Prelim Study Guide is out**

# More Announcements

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- A3 solutions posted. Grades out quite soon (if not already)
- Academic Integrity:
  - crediting people you got help from is **key**
  - “the rules” vs. academic integrity
  - better to submit nothing than to submit fraudulently

# A4 Announcements

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- clarification of spec to `map_people_to_positions`:
  - don't add an entry in the returned dictionary for vacant or holder-not-specified Positions
- Comment out lines 27-28 in `example_chart_sraggly.py`

# Put Me in the Zoo

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- **Classes:**

Animal, Bird, Penguin, Parrot

- **Attributes:**

num\_animals, animal names, tag\_no, can\_fly,  
can\_speak

- **Methods:**

\_\_init\_\_, \_\_str\_\_, set\_name

# Making Arguments Optional

- We can assign default values to `class Point3()`:

`__init__` arguments

- Write as assignments to parameters in definition
- Parameters with default values are optional

- **Examples:**

- `p = Point3()` # (0,0,0)
- `p = Point3(1,2,3)` # (1,2,3)
- `p = Point3(1,2)` # (1,2,0)
- `p = Point3(y=3)` # (0,3,0)
- `p = Point3(1,z=2)` # (1,0,2)

```
"""Instances are points in 3d space
   x: x coord [int]
   y: y coord [int]
   z: z coord [int]   """

def __init__(self,x=0,y=0,z=0):
    """Initializer: makes a new Point
    Precondition: x,y,z are numbers"""
    self.x = x
    self.y = y
    self.z = z
...

```