

Day 16 Object-Oriented Programming 2

Nov. 10, 2020



Administrative

- **Homework 4** is due Fri Nov 13
- **Projects** Project groups assigned (Email and D2L)
- **Midterm** is graded. Folks generally did well (91.5% average!).
- **No final exam**

Project Groups

- Tried to assign you to a group with your first/second choice
- Not possible for everybody, but tried to keep same topical area
- Groups have 3-5 people in them; based on mutual interests
- You will be asked to share the contributions of each member of your group as part of the final project

Pre-Class

- Not too much confusion, more questions of **why**?
- A couple questions about `__str__` vs `__repr__`

```
In [2]: class Point(object):
        def __init__(self,x=0,y=0):
            self.x_coord = x
            self.y_coord = y
        def translate(self,x=0,y=0):
            self.x_coord += x
            self.y_coord += y
        def print_point(self):
            print("{:d},{:d}".format(self.x_coord, self.y_coord))
```

```
In [5]: my_point = Point(1,2)
        my_point.print_point()
```

(1,2)

In [6]:

```
class Point(object):
    def __init__(self,x=0,y=0):
        self.x_coord = x
        self.y_coord = y
    def translate(self,x=0,y=0):
        self.x_coord += x
        self.y_coord += y
    def __str__(self):
        return "{:d},{:d}".format(self.x_coord, self.y_coord)
```

In [7]:

```
new_point = Point(2,3)
print(new_point)
```

(2,3)

`__str__` vs `__repr__`

- `__str__` finds the informal (human readable) string
- `__repr__` find the formal (official) string

```
In [12]: import datetime
now = datetime.datetime.now()
str(now)
```

```
Out[12]: '2020-11-10 10:31:19.554885'
```

```
In [13]: repr(now)
```

```
Out[13]: 'datetime.datetime(2020, 11, 10, 10, 31, 19, 554885)'
```

`__str__` vs `__repr__`

str()

Make object readable

Generate output for end user

repr()

Required code that reproduces object

Generate output for a developer

Questions, Comments, Concerns?