2.3 Designing Classes

3 ELEMENTS OF A CLASS:
- Instance attributes (*data*)
- Methods (*operations*)
- Representation invariants (*properties*)

INFORMATION HIDING:
- *Separating public interface of the class from implementation details*
- How would another person use the class?
- Goal: Being able to use the class w/o knowing how it works

PRIVATE-NESS IN PYTHON:

LEADING UNDERSCORE:
- Name anything (attributes, methods...) that is considered private with a leading underscore
- Means don't access instance variable -> don't use/ change value
- "We are all adults" philosophy ... :)

COMBINING CLASSES: COMPOSITION:
- Relationship B/T classes
- When the instances of one class have an attribute that refers to one or more instances of the other class.
- Ex: twitter User having a list of Tweets..

```python
class User:
    """A Twitter user.
    === Attributes ===
    userid: the userid of this Twitter user.
    bio: the bio of this Twitter user.
    tweets: the tweets that this user has made.
    """

    # Attribute types
    userid: str
    bio: str
    tweets: List[Tweet]
```

MODELLING WITH CLASSES:

- Taking an English description of an problem & designing classes that model the project