SENG 265-Lab07

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Python class

- A class is a special data type which defines how to build a certain kind of object
  - Methods
  - Attributes: class and data
  - Example:

```
class student:
"""A class representing a student."""
    def __init__(self, n, a):
        self.full_name = n
        self.age = a
    def get_age(self):
        return self.age
```

Methods

- Define a method in a class by including function definitions within the scope of the class block
- Method **__init__** can be implemented the same way as constructors in C
- We specify an argument called **self** as the first argument when defining the method, you don′t include it when calling the method
- To create an instance of the class:
  - b = student(″Bob″, 21)
- Use "." to access methods and attributes of a class
  - b.get_age()

Attributes

- **Data**:
  - Variable owned by a particular instance of a class, each instance has its own value for it.
  - initialized by an __init__() method
  - access: self.name

- **Class**:
  - Owned by the class as a whole. All instances of the class share the same value for it.
  - Defined within a class definition outside of any method
  - access: self.__class__.name

Exercise

- Write a module that includes your own string class called "myString"
  - Data attribute: value of string
  - Class attribute: count
  - Method "__init__": to initialize value
  - Method "find": takes a substring as input and returns the first index of occurance
  - Method "count": takes a substring as input and adds the number of times the substring occurs to the class attributed count

- Write a python script that imports your class from your module, reads "the-hobit.in" file (uploaded to Connex) line by line and prints the following:
  - the first occurrence of the word hobbit in the file
  - the total number of times the word hobbit occurs in the file