

# CS 115 - Introduction to Programming in Python

## Lab Guide 07A

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### Lab Objectives: Classes

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**Instructions:** Upload your solutions as a single .zip file to the Lab07 assignment on Moodle before the end of your lab session. Use the following naming convention: SS\_Lab07\_Surname\_FirstName.zip where SS is the section number 01, 02, 03, etc.

1. Write a class called `Person` (**Person.py**) that represents a typical Person object.
  - a. The class will store the following attributes:
    - Name
    - Age
    - Gender
    - Location
  - b. Your class should have an **init() method** that takes the values of all four attributes as parameters.
  - c. Your class should have the following **methods**:
    - Name: returns the value of the attribute
    - Age: returns the value of the attribute
    - Gender: returns the value of the attribute
    - Location: returns the value of the attribute + updates value of the attribute
  - d. You should also write `IncreaseAge()` method for increasing the person's age.
  - e. In addition to the accessor/mutator methods, your class should define a `__repr__` method that returns the string information about the Person in the following format, where "gulsah" is the name, "21" is the age, and "female" is the gender and "ankara" location):

|           |          |
|-----------|----------|
| Name      | : gulsah |
| Age       | : 21     |
| Gender    | : female |
| Location: | ankara   |

2. Create a script that does the following:
  - a. Define method `getByLocation()`: takes a list of Persons as a parameter and returns the list of Persons who have the location passed as a parameter.
  - b. Define method `getByGender()`: takes a list of Persons as a parameter returns the list of Persons who have the gender passed as a parameter.
  - c. Read data from the file `input.txt` and creates a list of People using data from the file.
  - d. Using the list and the functions defined in part a and b, print all the females in Ankara.

**Sample Run:**

-----Printing Females in Ankara-----

Name: gizem

Age: 21

Gender: female

Location: ankara

Name: gulsah

Age: 21

Gender: female

Location: ankara Output will appear as follows: