Python OOP – Object Oriented Programming for Beginners

Mini Project

Class Attributes

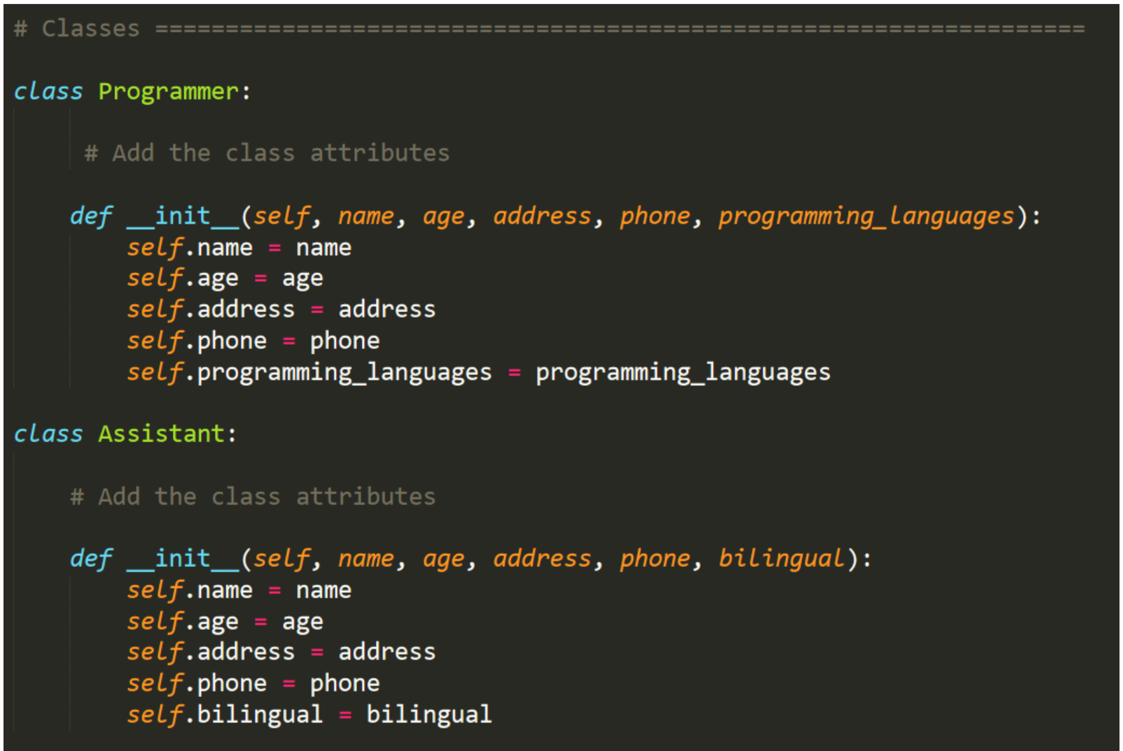
<u>Project Description</u>:

Your best friend is founding a startup and he desperately needs your help to implement a payroll system. The developer he hired last month only completed part of the program because he had a medical emergency and had to quit the job before completing it.

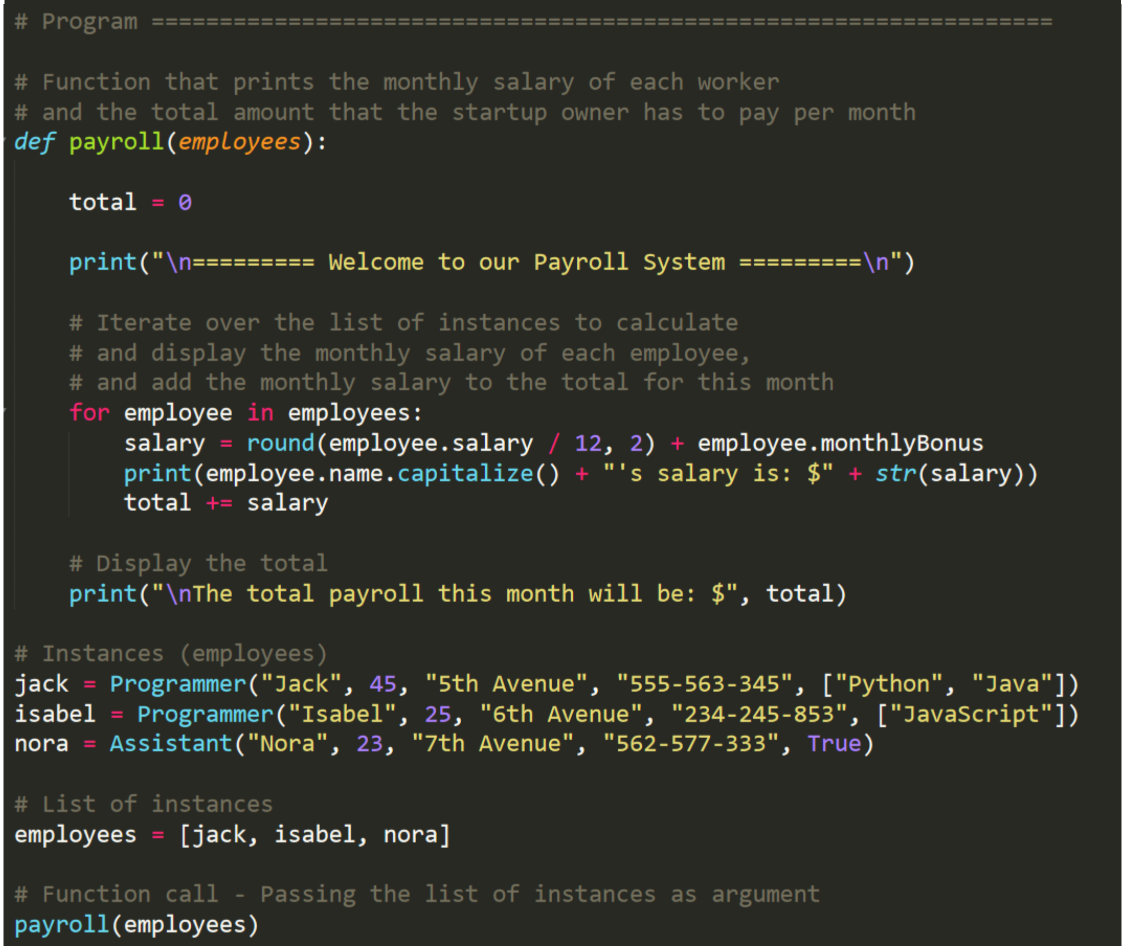
- Your job is to **complete the classes in the existing payroll system** by including the necessary **class attributes**.
- First, you need to analyze the "payroll" function located at the bottom of the file (or in the code below). From that code, you need to determine the attributes that the classes require. After meeting with your friend, you have determined that these attributes are shared by all instances of the classes, so they will be **class** attributes.
- Assign realistic values to them.
- Submit your **code** and the program **output** displayed after running it to complete this mini project.

Note: In the payroll function, the class attributes are accessed using this syntax <instance>.<attribute>.

Note: You will be able to check your solution with a sample answer as soon as you submit your mini project.



```python
# Classes ==================================================================

class Programmer:

     # Add the class attributes

    def __init__(self, name, age, address, phone, programming_languages):
        self.name = name
        self.age = age
        self.address = address
        self.phone = phone
        self.programming_languages = programming_languages

class Assistant:

    # Add the class attributes

    def __init__(self, name, age, address, phone, bilingual):
        self.name = name
        self.age = age
        self.address = address
        self.phone = phone
        self.bilingual = bilingual
```



```python
# Program ================================================================

# Function that prints the monthly salary of each worker
# and the total amount that the startup owner has to pay per month
def payroll(employees):

    total = 0

    print("\n========= Welcome to our Payroll System =========\n")

    # Iterate over the list of instances to calculate
    # and display the monthly salary of each employee,
    # and add the monthly salary to the total for this month
    for employee in employees:
        salary = round(employee.salary / 12, 2) + employee.monthlyBonus
        print(employee.name.capitalize() + "'s salary is: $" + str(salary))
        total += salary

    # Display the total
    print("\nThe total payroll this month will be: $", total)

# Instances (employees)
jack = Programmer("Jack", 45, "5th Avenue", "555-563-345", ["Python", "Java"])
isabel = Programmer("Isabel", 25, "6th Avenue", "234-245-853", ["JavaScript"])
nora = Assistant("Nora", 23, "7th Avenue", "562-577-333", True)

# List of instances
employees = [jack, isabel, nora]

# Function call - Passing the list of instances as argument
payroll(employees)
```