

Lab Task # 7

You are tasked with developing a system to manage different types of employees in a company. Each employee has a specific role and receives a different type of salary. You need to implement a Python program that models this system using object-oriented programming concepts, with a focus on polymorphism.

1. Define the Employee Base Class:

- Start by defining a base class called `Employee`. This class will serve as the blueprint for all types of employees in the company.
- The `Employee` class should have a method called `calculate_salary()` that returns the employee's salary. Since the base class doesn't have specific salary information, this method can return a generic value (e.g., 0).

2. Create Subclasses for Different Roles:

- Next, create subclasses for each specific role in the company. For this example, let's create subclasses for `Manager`, `Developer`, and `Designer`.
- Each subclass should inherit from the `Employee` base class and override the `calculate_salary()` method to provide a specific implementation for calculating the salary based on the role.

3. Implement Salary Calculation Logic in Subclasses:

- In the `Manager` subclass, override the `calculate_salary()` method to calculate the manager's salary. Managers typically receive a fixed base salary plus a bonus.
- In the `Developer` subclass, override the `calculate_salary()` method to calculate the developer's salary. Developers often receive an hourly wage multiplied by the number of hours worked.
- In the `Designer` subclass, override the `calculate_salary()` method to calculate the designer's salary. Designers may receive a fixed monthly salary.

4. Instantiate Objects and Demonstrate Polymorphism:

- Instantiate objects of each subclass (e.g., a `Manager` object, a `Developer` object, and a `Designer` object).
- Call the `calculate_salary()` method on each object to demonstrate polymorphism. Despite being of different types, all objects should respond uniformly to the method call, providing specific salary calculations based on their roles.

5. Output Results:

- Print out the calculated salaries for each type of employee to demonstrate that the polymorphic behavior is working as expected.