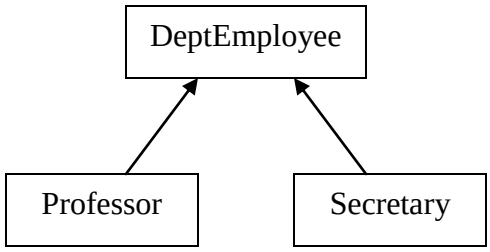
Programming Assignment 4-1

A university department consists of professors and secretaries. Each professor and each secretary has a name, a salary, and a hire date. Use inheritance and polymorphism to create an application that represents the department and its professors and secretaries as objects, and provides a `Test` class that creates 3 professors and 2 secretaries, and then outputs the combined total of all of their salaries.

Start by creating classes

```
Professor
Secretary
DeptEmployee
```

having the following relationship:



Place instance fields and corresponding accessor/mutator methods in `DeptEmployee` to represent name and hire date (do not create accessors or mutators for salary). Do not put these fields in either the `Professor` or `Secretary` class. Also place in the `Professor` class an `int` field `numberOfPublications`, with corresponding accessor and mutator methods. Place in the `Secretary` class a `double` field `overtimeHours`, also with corresponding accessor and mutator methods.

Place a `computeSalary` method in `DeptEmployee` which simply returns the value stored in `salary`. Override the `computeSalary` method in `Secretary` so that the return value is the sum of the value of `salary` *plus* 12 times the number of overtime hours.

Then in the `main` method of a class named `Test`, create three instances of `Professor` and two instances of `Secretary` (you can invent the values to pass into the constructor). In each of the `Professor` instances, set the value of `numPublications` to 10. And in each of the `Secretary` instances, set `overtimeHours` to 200. Finally, create an array of department employees:

```
DeptEmployee[] department = new DeptEmployee[5]
```

and then populate the array with the `Professor` and `Secretary` instances you have just created. Then ask the user if he wishes to see the sum of all salaries in the department. If the user responds "Y", then loop through the department array and polymorphically read, and sum, all salaries, and output the result to the console.