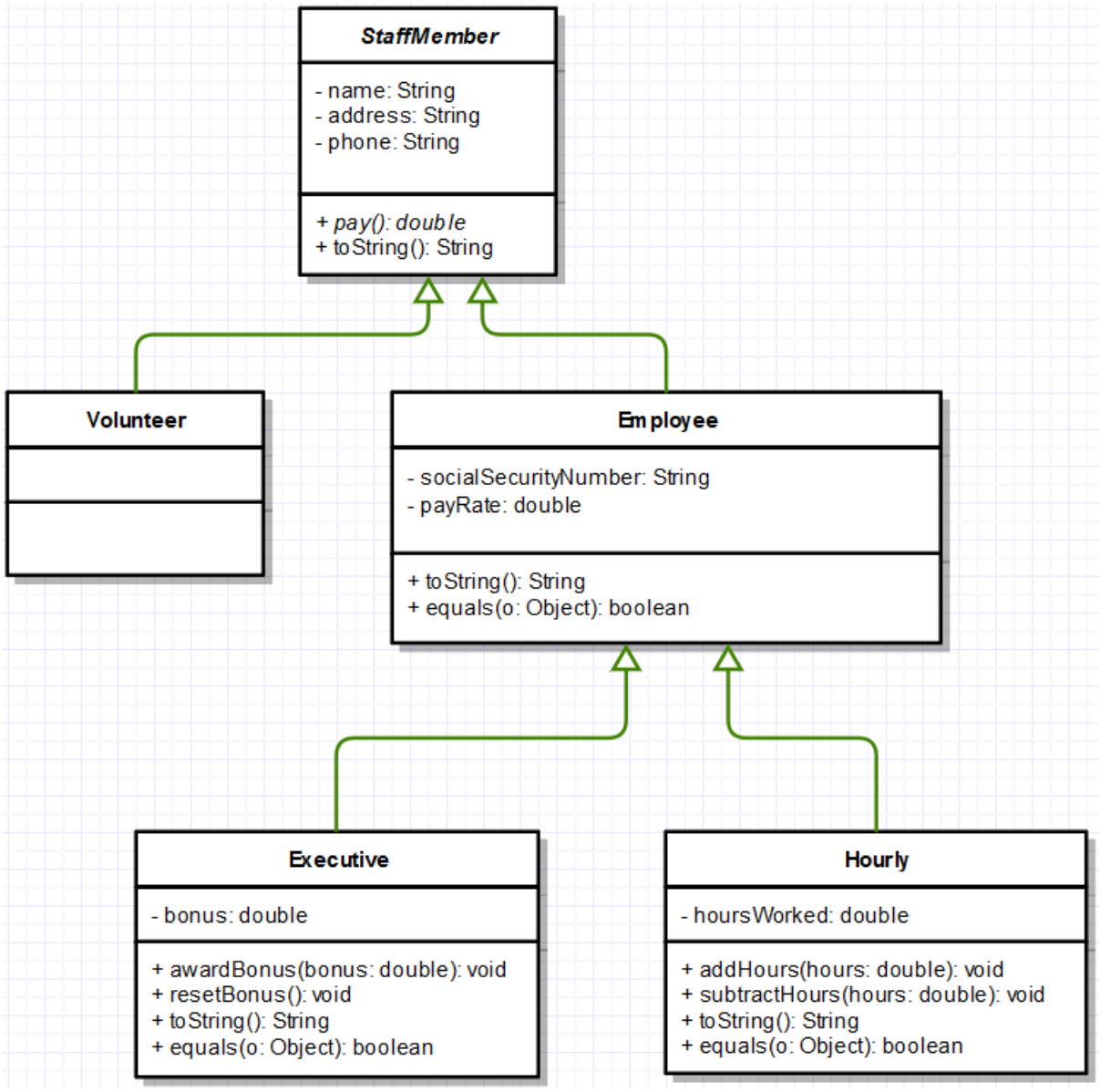
Consider the following UML class diagram (noting that `StaffMember` is an abstract class and contains one abstract method called `pay`).



This classes in this diagram are going to help you to model a payroll system.

Note 1:

To pay an Employee, return their pay rate (this is essentially their salary).

To pay an Executive, return their pay rate + their bonus.

To pay an Hourly worker, return their pay rate * hours worked.

To pay a Volunteer, return 0.0 (they don't get paid).

Note 2:

The awardBonus method in the Executive class should increase the bonus for a given executive by the specified amount.

The resetBonus method in the Executive class should reset the bonus for a given executive to 0.0.

The addHours method in the Hourly class should increase the hours worked for a given hourly worked by the specified amount.

The subtractHours method in the Hourly class should decrease the hours worked for a given hourly worked by the specified amount.

To Do:

1. Create a Netbeans project and add these classes to it. Add getter/setter methods for each of the properties in each class along with suitable constructor methods for class also.

2. Create another class called Firm. This class should have a `main` method.

3. In the firm class create an ArrayList (to hold StaffMember objects) and:

   3.1. Create an **executive** object (call it **ex1**) with the following details and then add it to your ArrayList.
   name: Dave
   address: Washington St
   phone: 345665
   social security number: 4513-45-89
   pay rate: 15000.45
   bonus: 0.0

   3.2. Create an **employee** object (**emp1**) with the following details and then add it to your ArrayList.
   name: Dom
   address: William St
   phone: 987654
   social security number: 94-65-41
   pay rate: 1200.15

   3.3. Create an **hourly** object (**hrl1**) with the following details and then add it to your ArrayList.
   name: Liam
   address: Shop St
   phone: 986532
   social security number: 984-474-325
   hourly rate: 12.45
   hours worked: 5

3.4. Create a **volunteer** object (**vol1**) with the following details and then add it to your ArrayList.
name: Grace
address: O'Connell St
phone: 557282

3.5. Award **ex1** a bonus of 9000.00.

3.6. Increase the hours worked for **hrl1** by 40.

3.7. Set the pay rate for **emp1** to 1000.00.

3.8. Create an **executive** object (call it **ex2**) with the following details and then add it to your ArrayList.
name: Tom
address: Moylish Park
phone: 784211
social security number: 4211-99-0
pay rate: 1799.45
bonus: 500.00

3.9. Award **ex2** a bonus of 700.00.

3.10. Create an **employee** object (call it **emp2**) with the following details and then add it to your ArrayList.
name: Aoife
address: Friars Sq
phone: 716234
social security number: 99-61-42
pay rate: 2300.00

3.11. Write a method called pay and add it to your Firm class. This method will accept your ArrayList of objects as an argument and should not have a return value. Iterate over the ArrayList and "pay" each of the Staff Members. As you pay each staff member, print to the screen their personal details as well as the sum of money they have received in payment (format it accordingly). In the case of a Volunteer (who does not receive any money) just print "Thanks". The output should look something like the following:

```
[Executive]
Name: Dave
Address: Washington St
Phone: 345665
Social Security Number : 4513-45-89
Paid: €24,000.45
--------------------------------------------------------------------------
[Employee]
Name: Dom
Address: William St
Phone: 987654
Social Security Number : 94-65-41
Paid: €1,000.00
--------------------------------------------------------------------------
[Hourly]
Name: Liam
Address: Shop Street
Phone: 986532
Social Security Number : 984-474-325
Current hours : 45
Paid: €560.25
--------------------------------------------------------------------------
[Volunteer]
Name: Grace
Address: O'Connell St
Phone: 557282
Thanks!
--------------------------------------------------------------------------
[Executive]
Name: Tom
Address: Moylish Park
Phone: 784211
Social Security Number : 4211-99-0
Paid: €2,999.45
--------------------------------------------------------------------------
[Employee]
Name: Aoife
Address: Friars Sq
Phone: 716234
Social Security Number : 99-61-42
Paid: €2,300.00
--------------------------------------------------------------------------
BUILD SUCCESSFUL (total time: 0 seconds)
```