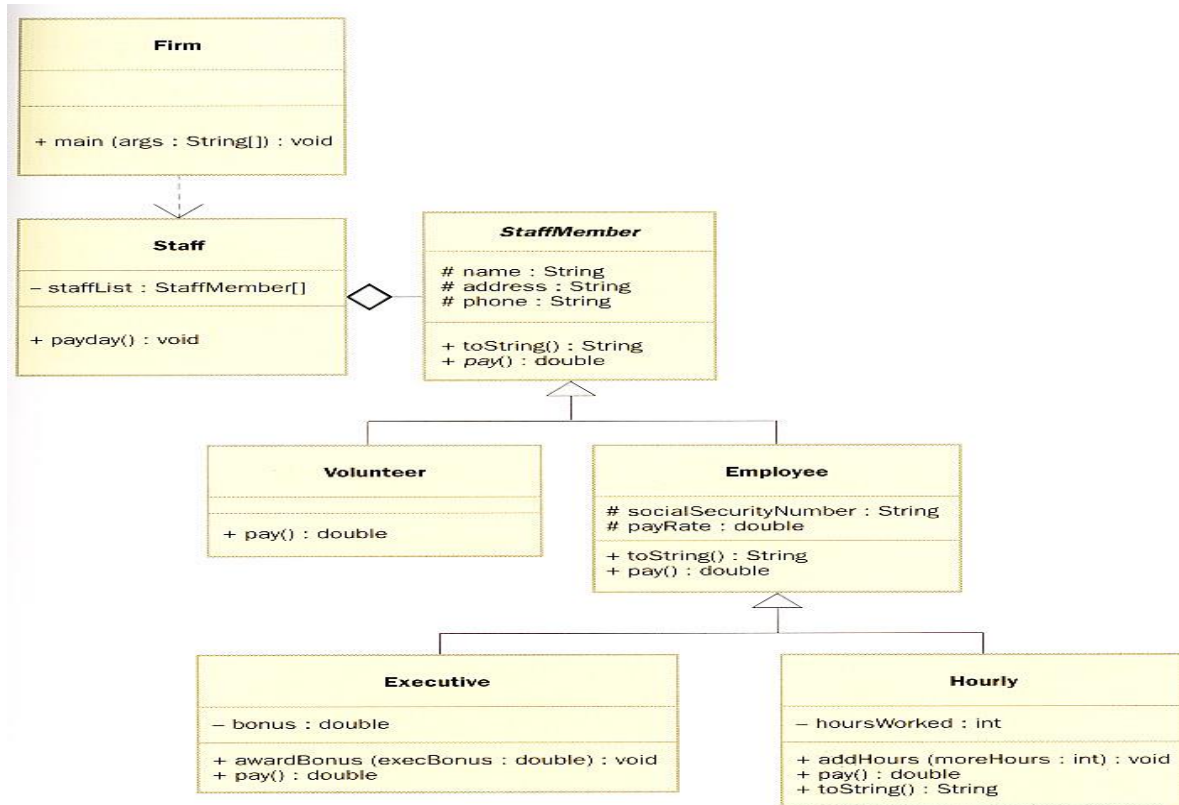


Java OOP – Class Diagram



SAMPLE CODE

Firm.java

```
public class Firm
{
    public static void main (String[] args)
    {
        Staff personnel = new Staff();

        personnel.payday();
    }
}
```

Java OOP – Class Diagram

Staff.java

```
public class Staff
{
    private StaffMember[] staffList;

    public Staff ()
    {
        staffList = new StaffMember[6];

        staffList[0] = new Executive ("Sam", "123 Main Line",
            "555-0469", "123-45-6789", 2423.07);

        staffList[1] = new Employee ("Carla", "456 Off Line",
            "555-0101", "987-65-4321", 1246.15);
        staffList[2] = new Employee ("Woody", "789 Off Rocker",
            "555-0000", "010-20-3040", 1169.23);

        staffList[3] = new Hourly ("Diane", "678 Fifth Ave.",
            "555-0690", "958-47-3625", 10.55);

        staffList[4] = new Volunteer ("Norm", "987 Suds Blvd.",
            "555-8374");
        staffList[5] = new Volunteer ("Cliff", "321 Duds Lane",
            "555-7282");

        ((Executive)staffList[0]).awardBonus (500.00);

        ((Hourly)staffList[3]).addHours (40);
    }

    public void payday ()
    {
```

Java OOP – Class Diagram

```
double amount;

for (int count=0; count < staffList.length; count++)
{
    System.out.println (staffList[count]);

    amount = staffList[count].pay();

    if (amount == 0.0)
        System.out.println ("Thanks!");
    else
        System.out.println ("Paid: " + amount);

    System.out.println ("-----");
}
}
```

StaffMember.java

```
abstract public class StaffMember
{
    protected String name;
    protected String address;
    protected String phone;

    public StaffMember (String eName, String eAddress, String ePhone)
    {
        name = eName;
        address = eAddress;
        phone = ePhone;
    }
}
```

Java OOP – Class Diagram

```
public String toString()
{
    String result = "Name: " + name + "\n";

    result += "Address: " + address + "\n";
    result += "Phone: " + phone;

    return result;
}

public abstract double pay();
}
```

Volunteer.java

```
public class Volunteer extends StaffMember
{

    public Volunteer (String eName, String eAddress, String ePhone)
    {
        super (eName, eAddress, ePhone);
    }

    public double pay()
    {
        return 0.0;
    }
}
```

Java OOP – Class Diagram

Employee.java

```
public class Employee extends StaffMember
{
    protected String socialSecurityNumber;
    protected double payRate;
    public Employee (String eName, String eAddress, String ePhone,
                     String socSecNumber, double rate)
    {
        super (eName, eAddress, ePhone);

        socialSecurityNumber = socSecNumber;
        payRate = rate;
    }

    public String toString()
    {
        String result = super.toString();

        result += "\nSocial Security Number: " + socialSecurityNumber;

        return result;
    }
    public double pay()
    {
        return payRate;
    }
}
```

Java OOP – Class Diagram

Executive.java

```
public class Executive extends Employee
{
    private double bonus;

    public Executive (String eName, String eAddress, String ePhone,
                     String socSecNumber, double rate)
    {
        super (eName, eAddress, ePhone, socSecNumber, rate);

        bonus = 0;
    }

    public void awardBonus (double execBonus)
    {
        bonus = execBonus;
    }

    public double pay()
    {
        double payment = super.pay() + bonus;

        bonus = 0;

        return payment;
    }
}
```

Java OOP – Class Diagram

Hourly.java

```
public class Hourly extends Employee
{
    private int hoursWorked;

    public Hourly (String eName, String eAddress, String ePhone,
                   String socSecNumber, double rate)
    {
        super (eName, eAddress, ePhone, socSecNumber, rate);

        hoursWorked = 0;
    }

    public void addHours (int moreHours)
    {
        hoursWorked += moreHours;
    }

    public double pay()
    {
        double payment = payRate * hoursWorked;

        hoursWorked = 0;

        return payment;
    }

    public String toString()
    {

```

Java OOP – Class Diagram

```
String result = super.toString();

result += "\nCurrent hours: " + hoursWorked;

return result;
}
}
```