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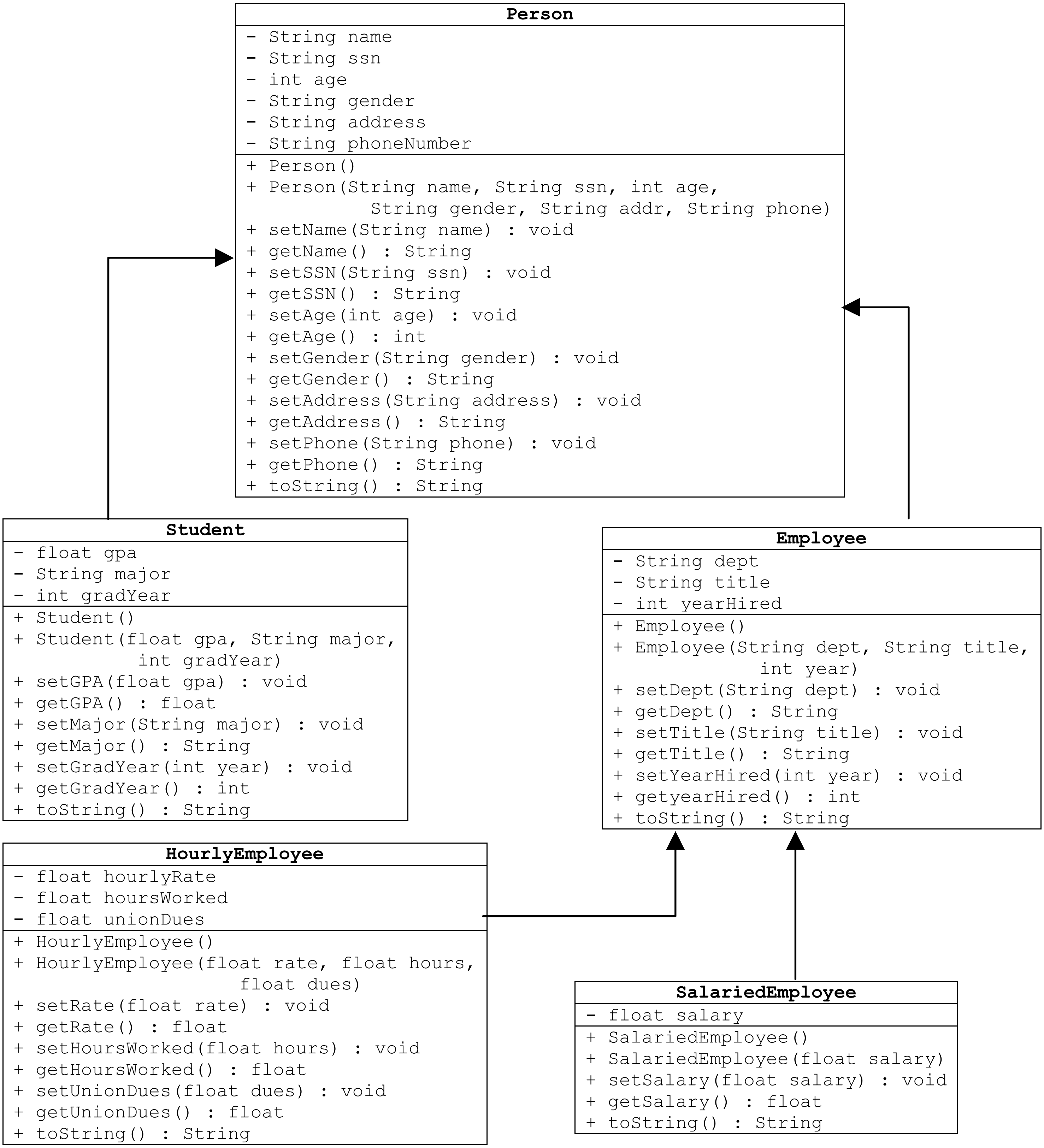
CS113
Week 2 Lab 1



Person

```
- String name
- String ssn
- int age
- String gender
- String address
- String phoneNumber
+ Person()
+ Person(String name, String ssn, int age,
           String gender, String addr, String phone)
+ setName(String name) : void
+ getName() : String
+ setSSN(String ssn) : void
+ getSSN() : String
+ setAge(int age) : void
+ getAge() : int
+ setGender(String gender) : void
+ getGender() : String
+ setAddress(String address) : void
+ getAddress() : String
+ setPhone(String phone) : void
+ getPhone() : String
+ toString() : String
```

Student

```
- float gpa
- String major
- int gradYear
+ Student()
+ Student(float gpa, String major,
           int gradYear)
+ setGPA(float gpa) : void
+ getGPA() : float
+ setMajor(String major) : void
+ getMajor() : String
+ setGradYear(int year) : void
+ getGradYear() : int
+ toString() : String
```

Employee

```
- String dept
- String title
- int yearHired
+ Employee()
+ Employee(String dept, String title,
           int year)
+ setDept(String dept) : void
+ getDept() : String
+ setTitle(String title) : void
+ getTitle() : String
+ setYearHired(int year) : void
+ getyearHired() : int
+ toString() : String
```

HourlyEmployee

```
- float hourlyRate
- float hoursWorked
- float unionDues
+ HourlyEmployee()
+ HourlyEmployee(float rate, float hours,
                 float dues)
+ setRate(float rate) : void
+ getRate() : float
+ setHoursWorked(float hours) : void
+ getHoursWorked() : float
+ setUnionDues(float dues) : void
+ getUnionDues() : float
+ toString() : String
```

SalariedEmployee

```
- float salary
+ SalariedEmployee()
+ SalariedEmployee(float salary)
+ setSalary(float salary) : void
+ getSalary() : float
+ toString() : String
```

```
// Person toString()
public String toString() {
      return "Name: " + getName() +
            "\nSSN: " + getSSN() +
            "\nAge: " + getAge() +
            "\nGender: " + getGenter() +
            "\nAddress: " + getAddress() +
            "\nPhone Number: " + getPhone() + "\n";
}

// Student toString()
public String toString() {
      return super.toString() +
            "GPA: " + getGPA() +
            "\nMajor: " + getMajor() +
            "\nGraduation Year: " + getGradYear() + "\n";
}

// Employee toString()
public String toString() {
      return super.toString() +
            "Department: " + getDept() +
            "\nTitle: " + getTitle() +
            "\nYear Hired: " + getYearHired() + "\n";
}

// HourlyEmployee toString()
public String toString() {
      return super.toString() +
            "Hourly Rate: " + getRate() +
            "\nHours Worked: " + getHoursWorked() +
            "\nUnion Dues: " + getUnionDues() + "\n";
}

// SalariedEmployee toString()
public String toString() {
      return super.toString() +
            "Annual Salary: " + getSalary() + "\n";
}


// Describe how polymorphism would work with the toString() method
```

Because toString() is inherited from the Object class, every object created has a toString() method. When the object's toString() is invoked, the compiler searches for it in the object's class. If it is defined there, it is called (the method is said to override the toString() inherited from Object). If it is not defined, the compiler searches up its superclasses until it finds a definition (ultimately Object's toString() if it can't find anything else).