**Discussion Questions to Java Inheritance Sarah Redmon**

**INF 260**

1. Security vulnerabilities found in the following classes:

* **Employee:** Input validation needed.
* **EmployeePayInfo:** Input validation needed. Needs Encryption for socialSecurityNumber.
* **HourlyEmployee:** Input validation needed. Needs Encryption for socialSecurityNumber.
* **SalariedEmployee:** Input validation needed. Needs Encryption for socialSecurityNumber.

1. Changes recommended for the modifiers for data members:

* **Employee:** Change all the String data members to private.
* **EmployeePayInfo:** Change the protected modifier for socialSecurityNumber to private.
* **HourlyEmployee:** Fine as is.
* **SalariedEmployee:** Change the protected modifier for compTime to private.

1. Changes recommended for the modifiers for methods:

* **Employee:** Change Employee from public to private.
* **EmployeePayInfo:** Change EmployeePayInfo from public to private.
* **HourlyEmployee:** Change HourlyEmployee from public to private.
* **SalariedEmployee:** Change SalariedEmployee from public to private.

1. Changes recommended for the modifiers for class headers:

* **Employee:** Fine as is.
* **EmployeePayInfo:** Fine as is.
* **HourlyEmployee:** Fine as is.
* **SalariedEmployee:** Fine as is.

1. Input validation suggestions:

* **Employee:** Fine as is.
* **EmployeePayInfo:** Update the validation forpayRate by not allowing negative numbers; if it is a negative number then set it to 0.
* **HourlyEmployee:** Fine as is.
* **SalariedEmployee:** Fine as is.

1. Encryption suggestions:

* **Employee:** Fine as is.
* **EmployeePayInfo:** Needs Encryption for socialSecurityNumber since it’s sensitive information (if left in).
* **HourlyEmployee:** Needs Encryption for socialSecurityNumber since it’s sensitive information.
* **SalariedEmployee:** Needs Encryption for socialSecurityNumber since it’s sensitive information.

1. Methods/data that should be removed:

* **Employee:** Get rid of the mutators since they are not necessary.
* **EmployeePayInfo:** Get rid of the mutators since they are not necessary.
* **HourlyEmployee:** Get rid of socialSecurityNumber since it’s not necessary to the program and is very sensitive information.
* **SalariedEmployee:** Get rid of socialSecurityNumber since it’s not necessary to the program and is very sensitive information.