

Name _____ Score _____

Create a NetBeans Java application project that includes two classes, *IncomeTest* and *Income*:

- The class *Income* should include 3 pieces of information as instance variables: a person's nickname, salary (the minimum salary is 1,000), and salary promotion rate (between 0 to 0.25).
- The class *Income* should have a constructor that initializes the three instance variables and validates the initial values for the instance variables (i.e., the minimum salary and promotion rate range—setting 0 for the rate if an invalid rate was detected).
- The class *Income* should provide the following methods:
 1. A *set* and a *get* method for the salary promotion rate instance variable (if the promotion rate is out of the range, set it to 0).
 2. A *inputSalaries* method that prompts the user to provide 4 salaries (if the sum of the salaries are below the minimum, set it to 1000).
 3. A *calculateIncome* method that calculate the new salary/income (that is, new salary = old-(current)-salary + old-(current)-salary * promotion-rate).
 4. A *displayIncome* method that display personal information (that is, the person's name, latest/new-salary).
- The class *IncomeTest* is used to test class *Income* and it proceeds in the following order of sequence:
 1. Create an *Income* object/instance;
 2. Call *inputSalaries* method;
 3. Call *calculateIncome* method to calculate new salary;
 4. Call *displayIncome* method to display the personal information;
 5. Call *set* method for updating promotion rate;
 6. Call *calculateIncome* method to calculate the updated salary;
 7. Call *displayIncome* method to display the updated personal information.
 8. (The body of the *IncomeTest* class should be simple, and include the statements listed above).

How to Grade the Project (full score: **40** points):

- You need to **draw a UML class** diagram for the class `Income`.
- Implement the project **based on the UML class diagram (15%)**.
- Have the instructor check the project—if you cannot complete the project, you need to print out the source code for both classes and give it to the instructor.
- **Follow Java Code Convention** rules in code implementation (**20%**).
- **Bonus points** (up to **6** points) will be given for the use of while statements in implementing `inputSalaries` method.
- Please try to complete the project. You may get help from the instructor in order to complete the project. The instructor will mark in the following table the assistance you have received for this project and take some credits off the final grade for this project. Remember, you will obtain *more credits from a completed projects than from an incomplete one!*—do not hesitate to seek assistance!.

Major Assistances received	Minor Assistances received