```
class Employee {
   String name;
   int age;
   Gender gender;
   double salary;// salary per month

   // Constructor. Please set all the data in constructor.
   public Employee(String name, int age, Gender gender, double salary) {
            this.name = name;
      this.age = age;
      this.gender = gender;
      this.salary = salary;
                        //write your code here
   }

   // Getter for `name`. Return the current `name` data
   public String getName() {
            return name;
                        //write your code here
   }

   // Setter for `name`. Set `name` data
   public void setName(String name) {
            this.name = name;
                        //write your code here
   }
   public void raiseSalary(double byPercent){
            salary = salary * byPercent;
   }
}

enum Gender {
   MALE,
   FEMALE;
}


public class Assignment2 {
   // Assignment

   /**
    * Write a method to calculate the Social Security Tax of an employee and print it.
    * If the salary is less than or equal to 8900, the Social Security Tax is 6.2% of the salary.
    * If the salary is more than 8900, the Social Security Tax is 6.2% of 106,800.
    */
   public double socialSecurityTax(Employee employee) {
            if (employee.salary <= 8900) {
                        return employee.salary * 0.062;
            } else {
                        return 106800 * 0.062;
            }
      //write your code here
   }

   /**
    * Write a method to calculate an employee's contribution for insurance coverage and print it.
    * Amount of deduction is computed as follows:
    * If the employee is under 35, rate is 3% of salary; if the employee is between 35 and 50(inclusive), rate is 4% of salary;
    * If the employee is between 50 and 60(exclusive), rate is 5% of salary; If the employee is above 60, rate is 6% of salary.
    */
   public double insuranceCoverage(Employee employee) {
            int age = employee.age;
```

```
        double salary = employee.salary;

        if (age < 35) {
                return salary * 0.03;
        } else if (age >= 35 && age <= 50) {
                return salary * 0.04;
        } else if (age > 50 && age < 60) {
                return salary * 0.05;
        } else {
                return salary * 0.06;
        }

    //write your code here
}

/**
 * Write a method to sort three employees' salary from low to high, and then print their name in order.
 * For example, Alice's salary is 1000, John's salary is 500, Jenny's salary is 1200, you should print:
 * John Alice Jenny
 */
public void sortSalary(Employee e1, Employee e2, Employee e3) {
        double s1 = e1.salary;
        double s2 = e2.salary;
        double s3 = e3.salary;
        if (s1 < s2) {
                        if (s1 < s3) {
                                if (s2 < s3) {
                                        System.out.println(e1.name +" "+ e2.name+" "+ e3.name);
                                } else {
                                        System.out.println(e1.name +" "+ e3.name+" "+ e2.name);
                                }
                        } else {
                                System.out.println(e3.name +" "+ e1.name+" "+ e2.name);
                        }
        } else {
                if (s3 < s1) {
                        if (s3 < s2) {
                                System.out.println(e3.name +" "+ e2.name+" "+ e1.name);
                        } else {
                                System.out.println(e2.name +" "+ e3.name+" "+ e1.name);
                        }
                } else {
                        System.out.println(e2.name +" "+ e1.name+" "+ e3.name);
                }
        }
    //write your code here
}

/**
 * Write a method to raise an employee's salary to three times of his/her original salary.
 * Eg: original salary was 1000/month. After using this method, the salary is 3000/month.
 * Do not change the input of this method.
 * Try to add a new method in Employee class: public void raiseSalary(double byPercent)
 */
public void tripleSalary(Employee employee) {
        employee.raiseSalary(3);
    //write your code here
}


//Extra credit
```

```
  /**
   * I have written some code below. What I want is to swap two Employee objects.
   * One is Jenny and one is John. But after running it, I got the result below:
   * Before: a=Jenny
   * Before: b=John
   * After: a=Jenny
   * After: b=John
   * There is no change after swap()! Do you know the reason why my swap failed?
   * Write your understanding of the reason and explain it.
   */
  /*
   * I guess a and b copied in the reference,their copy changed.they actually didn't change.
   write your understanding here.
  */
  public static void main(String[] args) {
     Employee a = new Employee("Jenny", 20, Gender.FEMALE, 2000);
     Employee b = new Employee("John", 30, Gender.MALE, 2500);
     System.out.println("Before: a=" + a.getName());
     System.out.println("Before: b=" + b.getName());
     swap(a, b);
     System.out.println("After: a=" + a.getName());
     System.out.println("After: b=" + b.getName());
  }

  public static void swap(Employee x, Employee y) {
     Employee temp = x;
     x = y;
     y = temp;
  }
}
```