AP FR Employee

NetBeans Workspace: Employee

JCreator Workspace: Employee

Directions

Periodically, a company processes the retirement of some of its employees. In this question, you will write methods to help the company determine whether an employee is eligible to retire and to process the retirement of all eligible employees.

The **Employee** interface is declared as follows.

```
public interface Employee
{
    int getAge();
    int getYearsOnJob();
    double getSalary();
    int getID();
}
```

The **Company** class is declared as follows.

```
public class Company
{
   private ArrayList <Employee> empList;    // all employees in this company
   private int retireAge;        // minimum age to retire
   private int retireYears;      // minimum years on job to retire
   private int retireSalary;     // minimum salary to retire
   private double salaryBudget;

   // postcondition: all retirement-eligible employees have been
   // removed from empList;
   // empList remains sorted by employee ID;
   // salaryBudget has been updated to reflect remaining
   // employees
   public void processRetirements()
   {  /* implemented in part(a)  */  }

   // postcondition: returns true if emp is eligible to retire;
   // otherwise, returns false
   private boolean employeeIsEligible(Employee emp)
   {  /* implemented in part(b)  */  }

   // constructors and other methods not shown
}
```

The data member **empList** is sorted in ascending order by employee ID. The total of all salaries is maintained in the data member **salaryBudget**.

a. An employee is eligible for retirement if (s)he meets at least two of the following requirements:

1. The employee is at least retireAge years old.
2. The employee has worked for at least retireYears.
3. The employee's salary is at least retireSalary.

Write the method **employeeIsEligible**. employeeIsEligible returns a boolean value that indicates whether Employee emp is eligible for retirement, using the rules described above.

Complete method **employeeIsEligible** below.

```
// postcondition: returns true if emp is eligible to retire;
//      otherwise, returns false
public boolean employeeIsEligible(Employee emp)
```

b. Write method **processRetirements**. processRetirements removes all retirement-eligible employees from the empList array, resizes (shrinks) empList as appropriate (maintaining its order by employee ID), and decreases salaryBudget to reflect the salary of the remaining employees.

In writing processRetirements, you may call **employeeIsEligible**, specified in part(a). Assume that employeeIsEligible works as specified, regardless of what you wrote in part(a).

Complete method **processRetirements** below.

```
// postcondition: all retirement-eligible employees have been
//      removed from empList; empList has been resized
//      to reflect retirements;
//      empList remains sorted by employee ID;
//      salaryBudget has been updated to reflect remaining
//      employees
public void processRetirements()
```