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public class PensionPlanner {
    double pensionTarget;
    double currentSaving = 0;
    double annualSalary;
    double monthlySaving;
    double interestRate;

    // For Part B
    double semiAnnualRaise;

    // For Part C
    int workingMonth;
    int NoOfMonthDelay;

    public PensionPlanner(double pensionTarget, double
currentSaving, double annualSalary, double monthlySaving, double
interestRate) {
        this.pensionTarget = pensionTarget;
        this.currentSaving = currentSaving;
        this.annualSalary = annualSalary;
        this.monthlySaving = monthlySaving;
        this.interestRate = interestRate;
        this.semiAnnualRaise = 0;
    }

    // Setters
    public void setPensionTarget(double pensionTarget) {
        this.pensionTarget = pensionTarget;
    }

    public void setAnnualSalary(double annualSalary) {
        this.annualSalary = annualSalary;
    }

    public void setMonthlySaving(double monthlySaving) {
        this.monthlySaving = monthlySaving;
    }

    public void setWorkingMonth(int workingMonth) {
        this.workingMonth = workingMonth;
    }

    public void setSemiAnnualRaise(double semiAnnualRaise) {
        this.semiAnnualRaise = semiAnnualRaise;
    }

    public void setInterestRate(double interestRate) {
        this.interestRate = interestRate;
    }

    public void setNoOfMonthDelay(int NoOfMonthDelay) {
        this.NoOfMonthDelay = NoOfMonthDelay;
    }
}

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// Getters
public int getWorkingMonth() {
    double pensionSaving = this.currentSaving;
    double originalAnnualSalary = this.annualSalary;
    int months = 0;

    double addToPension = (this.annualSalary / 12) *
this.monthlySaving;

    while(this.pensionTarget > pensionSaving) {
        // For Part B: Semi-annual raise
        if(months % 6 == 0 && months != 0) {
            originalAnnualSalary += originalAnnualSalary *
this.semiAnnualRaise;
            addToPension = (originalAnnualSalary / 12) *
this.monthlySaving;
        }

        // Calculate interest
        pensionSaving += pensionSaving * this.interestRate / 12;
        // Add money after interest is calculated
        pensionSaving += addToPension;

        months++;
    }

    return months;
}

public double getAdditionalPensionSaving() {
    double pensionSaving = this.currentSaving;
    double originalAnnualSalary = this.annualSalary;

    double addToPension = (this.annualSalary / 12) *
this.monthlySaving;

    for(int months = 0; months < this.workingMonth; months++) {
        // For raises
        if(months % 6 == 0 && months != 0) {
            originalAnnualSalary += originalAnnualSalary *
this.semiAnnualRaise;
            addToPension = (originalAnnualSalary / 12) *
this.monthlySaving;
        }
        pensionSaving += pensionSaving * this.interestRate / 12;
        pensionSaving += addToPension;
    }

    double additionalSaving = pensionSaving;
    for(int i = 0; i < this.NoOfMonthDelay; i++) {
        additionalSaving += pensionSaving * this.interestRate /
12;
    }
}

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        return additionalSaving - pensionSaving;
    }
}
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