

Tharaka Bulathgama
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Coursework 4
import java.util.Scanner;

```
class example {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        boolean running = true;

        while (running) {
            System.out.println("-----");
            System.out.println("|          SALARY INFORMATION SYSTEM          |");
            System.out.println("-----");
            System.out.println();
            System.out.println("    [1] Calculate Income Tax          ");
            System.out.println("    [2] Calculate Annual Bonus        ");
            System.out.println("    [3] Calculate Loan Amount         ");
            System.out.println("    [4] Exit                          ");
            System.out.print("Enter an option to continue> ");

            int choice = input.nextInt();

            switch (choice) {
                case 1:
                    calculateIncomeTax(input);
                    break;
                case 2:
                    calculateAnnualBonus(input);
                    break;
                case 3:
                    calculateLoanAmount(input);
                    break;
                case 4:
                    running = false; // Exit the program
                    break;
                default:
                    System.out.println("Invalid option. Please try again.");
                    break;
            }
        }

        input.close();
    }

    private static void calculateIncomeTax(Scanner input) {
        System.out.println("-----");
        System.out.println("|          INCOMETAX INFORMATION          |");
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System.out.println("-----");
System.out.print("Enter your annual salary (Rs.): ");
double salary = input.nextDouble();
double tax = 0;

// Define the tax brackets and rates
if (salary > 100000) {
    double taxableIncome = salary - 100000; // Only income above Rs.100,000 is taxed
    double[] limits = {41667, 41667, 41667, 41667, 41667}; // Each bracket after the first
100,000
    double[] rates = {0.06, 0.12, 0.18, 0.24, 0.30}; // Tax rates for each bracket

    for (int i = 0; i < limits.length; i++) {
        if (taxableIncome > limits[i]) {
            tax += rates[i] * limits[i];
            taxableIncome -= limits[i];
        } else {
            tax += rates[i] * taxableIncome;
            taxableIncome = 0;
            break;
        }
    }

    if (taxableIncome > 0) { // Anything left after Rs.308,333 is taxed at 36%
        tax += taxableIncome * 0.36;
    }
}

System.out.printf("Your income tax is: Rs. %.2f\n", tax);
}

private static void calculateAnnualBonus(Scanner input) {
    System.out.println("-----");
    System.out.println("|          BOUNUS INFORMATION          |");
    System.out.println("-----");
    System.out.print("Enter employee name: ");
    String name = input.next(); // read employee name
    System.out.print("Enter monthly salary (Rs.): ");
    double monthlySalary = input.nextDouble();
    double annualSalary = monthlySalary * 12;
    double bonus = 0;

    // Calculate the bonus based on the annual salary bands
    if (annualSalary < 100000) {
        bonus = 5000;
    } else if (annualSalary >= 100000 && annualSalary <= 199999) {
        bonus = annualSalary * 0.10;
    } else if (annualSalary >= 200000 && annualSalary <= 299999) {

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        bonus = annualSalary * 0.15;
    } else if (annualSalary >= 300000 && annualSalary <= 399999) {
        bonus = annualSalary * 0.20;
    } else if (annualSalary > 400000) {
        bonus = annualSalary * 0.35;
    }

    System.out.printf("%s's annual bonus is: Rs. %.2f\n", name, bonus);
}

private static void calculateLoanAmount(Scanner input) {
    System.out.println("-----");
    System.out.println("|      LOAN INFORMATION      |");
    System.out.println("-----");
    System.out.print("Enter employee name: ");
    String name = input.next();
    System.out.print("Enter monthly salary (Rs.): ");
    double monthlySalary = input.nextDouble();
    if (monthlySalary <= 50000) {
        System.out.println("Salary must be greater than Rs. 50,000 to qualify for a loan.");
        return;
    }

    System.out.print("Enter the number of years for the loan (up to 5 years): ");
    int years = input.nextInt();
    if (years > 5) {
        System.out.println("The maximum number of years for the loan is 5.");
        return;
    }

    double annualInterestRate = 0.15; // 15% annual interest rate
    int months = years * 12;

    double monthlyInstallment = monthlySalary * 0.60; // 60% of monthly salary
    double ratePerMonth = annualInterestRate / 12;

    // Calculate the loan amount using the formula provided
    double loanAmount = monthlyInstallment * (1 - (1 / Math.pow((1 + ratePerMonth),
months))) / ratePerMonth;

    // Round loan amount to the nearest 1000
    loanAmount = Math.round(loanAmount / 1000.0) * 1000;

    System.out.printf("%s can obtain a loan amount of Rs. %.2f\n", name, loanAmount);
}
}

```

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|          SALARY INFORMATION SYSTEM          |  
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```

- [1] Calculate Income Tax
- [2] Calculate Annual Bonus
- [3] Calculate Loan Amount
- [4] Exit

Enter an option to continue> 1

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|          INCOMETAX INFORMATION          |  
-----
```

Enter your annual salary (Rs.): 250000
Your income tax is: Rs. 20999.88

```
-----  
|          SALARY INFORMATION SYSTEM          |  
-----
```

- [1] Calculate Income Tax
- [2] Calculate Annual Bonus
- [3] Calculate Loan Amount
- [4] Exit

Enter an option to continue> 2

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-----  
|          BOUNUS INFORMATION          |  
-----
```

Enter employee name: Tharaka
Enter monthly salary (Rs.): 250000
Tharaka's annual bonus is: Rs. 1050000.00

```
-----  
|          LOAN INFORMATION          |  
-----
```

Enter employee name: Tharaka
Enter monthly salary (Rs.): 250000
Enter the number of years for the loan (up to 5 years): 2
Tharaka can obtain a loan amount of Rs. 3094000.00

```
-----  
|          SALARY INFORMATION SYSTEM          |  
-----
```