

## Assignment Submission –Instructions

- Submission Date: **9 February** (no extensions will be granted).
- The assignment must be handwritten using pen and paper. Printed or typed work will not be accepted.
- The corresponding .java source file must be uploaded to GitHub.
- Students must bring their laptop on the submission day.
- The code will be compiled and executed on your laptop. If the program does not run correctly, the assignment will be considered incomplete.
- Failure to follow any of the above instructions will result in rejection of the assignment.

### Insurance Premium Calculator

You have been employed to write a program named Insurance Premium Calculator that calculates the insurance premium for buildings.

There are two types of buildings:

1. Domestic / Private House
2. Commercial Premise

The insurance premium depends on:

- *Type of building*
- *Amount insured*
- *Number of previous claims*

Each building type has different premium rates, discounts, and a fixed processing charge.

#### **Domestic / Private House**

- Charged 0.3% of the insured amount if the amount is less than \$100,000
- Charged 0.25% of the insured amount if the amount is \$100,000 or more
- Customers with 0 previous claims receive a 10% no-claim bonus
- Fixed processing charge: \$50

#### **Commercial Premise**

- Charged 0.5% of the insured amount if the amount is less than \$250,000
- Charged 0.75% of the insured amount if the amount is \$250,000 or more
- Customers with 0 previous claims receive a 15% no-claim bonus
- Fixed processing charge: \$80

Your task is to calculate and print the final insurance premium.

#### **Input Format**

- The first line contains a string B, the type of building (Domestic or Commercial)
- The second line contains a floating-point number A, the amount insured
- The third line contains an integer C, the number of previous claims

#### **Output Format**

- Print a single floating-point number representing the final insurance premium
- The output should be rounded to 2 decimal places

#### **Example 1: Domestic House**

Amount < 100,000 and 0 Claims (No-claim bonus applies)

Input

Domestic

80000

0

Calculation

- Premium rate = 0.3% of 80,000 = 240
- Processing charge = 50
- Total before discount = 290
- No-claim bonus (10%) = 29
- Final premium = 290 – 29 = 261.00

Output  
261.00

### **Example 2: Domestic House**

Amount < 100,000 and Claims > 0 (No bonus)

Input  
Domestic  
90000  
2

Calculation

- Premium rate = 0.3% of 90,000 = 270
- Processing charge = 50
- No discount applied
- Final premium = 320.00

Output  
320.00

### **Example 3: Domestic House**

Amount  $\geq$  100,000 and 0 Claims (No-claim bonus applies)

Input  
Domestic  
150000  
0

Calculation

- Premium rate = 0.25% of 150,000 = 375
- Processing charge = 50
- Total before discount = 425
- No-claim bonus (10%) = 42.50
- Final premium = 382.50

Output  
382.50

### **Example 4: Domestic House**

Amount  $\geq$  100,000 and Claims > 0

Input  
Domestic  
120000  
1

Calculation

- Premium rate = 0.25% of 120,000 = 300
- Processing charge = 50
- No discount applied
- Final premium = 350.00

Output  
350.00

### **Example 5: Commercial Premise**

Amount < 250,000 and 0 Claims (No-claim bonus applies)

Input  
Commercial  
200000  
0

Calculation

- Premium rate = 0.5% of 200,000 = 1000
- Processing charge = 80
- Total before discount = 1080
- No-claim bonus (15%) = 162
- Final premium = 918.00

Output  
918.00

**Example 6: Commercial Premise**

Amount < 250,000 and Claims > 0

Input  
Commercial  
180000

3  
Calculation

- Premium rate = 0.5% of 180,000 = 900
- Processing charge = 80
- No discount applied
- Final premium = 980.00

Output  
980.00

**Example 7: Commercial Premise**

Amount ≥ 250,000 and 0 Claims (No-claim bonus applies)

Input  
Commercial  
300000  
0

Calculation

- Premium rate = 0.75% of 300,000 = 2250
- Processing charge = 80
- Total before discount = 2330
- No-claim bonus (15%) = 349.50
- Final premium = 1980.50

Output  
1980.50

**Example 8: Commercial Premise**

Amount ≥ 250,000 and Claims > 0

Input  
Commercial  
400000  
2

Calculation

- Premium rate = 0.75% of 400,000 = 3000
- Processing charge = 80
- No discount applied
- Final premium = 3080.00
- Output  
3080.00