

# Reflection Log – Exercise 2: PizzaCost Application

**Credit Name:** Mastery - Exercise 2 (CSE2140 2nd Language Programming)

**Assignment Name:** PizzaCost Application

---

## Understanding the Problem

The problem asked me to calculate the cost of making a pizza based on its diameter. I needed to include three costs: \$0.75 for labor, \$1.00 for rent, and  $\$0.05 \times \text{diameter} \times \text{diameter}$  for materials. At first, I had to carefully read the instructions to make sure I understood which values were fixed and which depended on the diameter.

---

## Planning the Solution

I broke the problem into smaller steps:

1. Ask the user to enter the diameter of the pizza.
2. Calculate the material cost using `0.05 * diameter * diameter`.
3. Add the labor and rent costs.
4. Display the total cost to the user.

I used a `Scanner` for user input and `double` variables for the costs because they may include decimals.

---

## Implementation

I wrote the code one step at a time. First, I tested if I could read the diameter from the user. Then, I added the material cost formula. After that, I added labor and rent. Finally, I displayed the total cost using `System.out.println`. I tested the program by entering different diameters to check if the results made sense.

---

## Overcoming Challenges

The most confusing part at first was remembering to use the diameter squared for the material cost. I also had to make sure to use decimals (double) so that the result would include cents and not just whole numbers.

---

## Learning

I learned how to use constants, formulas, and user input together to solve a problem. I also learned that using `double` is important when working with money and decimals. This will help me with future programs that involve real-world calculations.

# Reflection Log – Exercise 7: Digits Application

**Credit Name:** Mastery - Exercise 2 (CSE2140 2nd Language Programming)

**Assignment Name:** Digits Application

---

## Understanding the Problem

The problem asked me to take a three-digit number and show the hundreds, tens, and ones digits separately. At first, I wasn't sure how to split the number into different digits, but then I remembered the modulus operator (%) and integer division (/) could help.

---

## Planning the Solution

I planned the program in steps:

1. Ask the user to enter a three-digit number.
  2. Use `% 10` to get the ones digit.
  3. Use `(number / 10) % 10` to get the tens digit.
  4. Use `number / 100` to get the hundreds digit.
  5. Print out all three digits with clear labels.
- 

## Implementation

I first wrote the input part of the code to make sure I could read a number. Then, I tested the formula for the ones digit. After that, I added the tens and hundreds formulas. Finally, I printed them all out using

`System.out.println`. I tested with different numbers like 374 and 529 to check if the program gave the correct digits.

---

## Overcoming Challenges

The hardest part was finding the tens digit. At first, I only divided by 10, but that gave me two digits instead of one. I solved this by adding `% 10` after dividing. That way, I only got the last digit of the tens place.

---

## Learning

I learned how to use division and modulus together to break apart a number into its digits. This gave me more practice with math in programming, and it will help me in future challenges where I need to work with individual parts of numbers.