

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.
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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.