**Unit 4 - Worksheet 2**

**New Pyret Skill: Conditionals**

*This activity has been adapted from the Bootstrap Algebra Workbook v2.7*

Luigi’s Pizza offers pepperoni ($10.50), cheese ($9.00), chicken ($11.25), and broccoli ($10.25) pizzas. Luigi wrote a program called pizza-cost that consumes a *string* called topping and produces the cost as a *number*.

What is the contract for this program?

# pizza-cost : \_\_\_\_\_\_\_\_\_\_\_\_\_\_ -> \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| **fun** pizza-cost(topping):  **if** topping == "cheese":  9.00  **else if** topping == "pepperoni":  10.50  **else if** topping == "chicken":  11.25  **else if** topping == "broccoli":  10.25  **else**: raise("Sorry, that's not on the menu!")  **end**  **end** |

1. Which topping causes the pizza to be most expensive? How do you know?
2. Which topping causes the pizza to be least expensive? How do you know?
3. If you had $32, what pizzas could you buy (assume no tax is charged)?
4. Explain in your own words describe what the function *raise(“String”)* does. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. The function pizza-cost(topping) consumes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and produces a \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. What word do you think the symbol “:” represents in the code? (Hint: Try reading it out loud) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Write a conditional for Luigi’s newest topping: Hawaiian ($13.50).
4. Why does topping == "cheese" have two equal signs? Why can’t you just use one?

**WRITE YOUR OWN FUNCTION**:

1. Luigi changed his mind and wants to charge by number of toppings instead. How much should Luigi charge per topping? How did you decide this?

**$1.50 / topping This seemed to be close to the ‘average’ (mean) cost of a single   
 topping and is a ‘roundish’ number.**

1. Write a new function called new-pizza-cost(...). It should consume a number of toppings and produce the price of the pizza.

**fun** new-pizza-cost(n):  
 9.00 + (1.50 \* n)  
 **end**

1. How would the function change if Luigi’s market research showed that no one would be willing to pay more than $15 for his pizza, but he still wanted to offer ‘unlimited’ toppings?

Need an ‘if’ statement regarding how much the pizza costs, so that it doesn’t go over $15.

(Toppings after ‘4’ would be ‘free’)

1. Use the Design Recipe on the next page to write your new function.

**fun** new-pizza-cost(n):  
 **if** n <= 4:  
 9.00 + (1.50 \* n)  
 **else**:  
 15  
 **end  
 end**

## Contract+Purpose Statement

Every contract has three parts:

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ → \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name Domain Range

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What does the function do?

## Give Examples

Write examples of your function in action

**examples:**

\_\_\_\_\_\_\_\_\_\_\_\_\_(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

Name Input

**is** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What the function produces

\_\_\_\_\_\_\_\_\_\_\_\_\_(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

Name Input

**is** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What the function produces

\_\_\_\_\_\_\_\_\_\_\_\_\_(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

Name Input

**is** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What the function produces

**end**

## Function

Find the changes in the examples, and name the variables.

**fun** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) :

**if** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**else if** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**else if** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**end**

**end**