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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.

5. The function pizza-cost(topping) consumes a _____ and produces a _____.

6. What word do you think the symbol ":" represents in the code? (Hint: Try reading it out loud) _____

7. Write a conditional for Luigi's newest topping: Hawaiian ($13.50).

8. Why does `topping == "cheese"` have two equal signs? Why can't you just use one?

WRITE YOUR OWN FUNCTION:

9. 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?

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

11. 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?

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

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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
```


