**Unit 1.5 - Worksheet 2a**

**Working with Functions and Images in Pyret, Part 1**

# **Functions in Pyret**

1. Pyret comes with a **lot** of built in functions. We’ll introduce more over time. Here are just two examples: The function “num-sqr” is built in to Pyret, and takes a number and returns its square. The function “string-append” is built in to Pyret, and takes two strings and combines them. For now, we want to figure out how to use them. Try typing the following as you did on the previous page:

|  |  |  |  |
| --- | --- | --- | --- |
| **What you type** | **Prediction** | **Observation** | **Describe/Explain** |
| num-sqr(4)  ***(without spaces)*** |  |  |  |
| num-sqr ( 4 )  ***(with spaces)*** |  |  |  |
| num-sqr( 4 ) |  |  |  |
| num-sqr(4, 5) |  |  |  |
| num-sqr 4 |  |  |  |

Write an expression to square the number 6. Record your code here.

Write an expression to square the number 10. Record your code here.

|  |  |  |  |
| --- | --- | --- | --- |
| **What you type** | **Prediction** | **Observation** | **Describe/Explain** |
| string-append(“hel”, “lo”) |  |  |  |
| string-append(“hello”, 5) |  |  |  |
| string-append(“hello”) |  |  |  |
| string-append(“hello”, world) |  |  |  |

Write an expression in Pyret that will combine “Delicious” & “Food”. Does it look right to you? If not, what would you change?

# **Images in Pyret**

1. Pyret also comes with a library to help you produce **images** in your programs, too. To use these functions, type “include image” in the top of the Definitions (left side) window, and be sure to press Run before trying the examples below.

|  |  |  |  |
| --- | --- | --- | --- |
| **What you type** | **Prediction** | **Observation** | **Describe/Explain** |
| **circle(10, “solid”, “red”)** |  |  |  |
|  |  | A bigger red circle |  |
|  |  | A blue, outlined circle. |  |
|  |  | A solid red square the same size as the circle |  |
| **rectangle(30, 40, “solid”, “green”)** |  |  |  |
| **rectangle(30, “solid”, “green”)** |  |  |  |
|  |  | An equilateral green triangle. |  |

Check out the Documentation … and draw multiple objects…. Be creative.

Write your unsuccessful attempts here and why you believe it didn’t work.

|  |  |
| --- | --- |
| Unsuccessful attempt | What might have caused the problem? |
|  |  |
|  |  |
|  |  |

Write your successful attempts here and any changes you had to make, to get them to work.

|  |  |
| --- | --- |
| Successful attempt | What corrections did you have to make? |
|  |  |
|  |  |
|  |  |

We say that these sorts of expressions are “function calls”, which use a function to compute an answer based on some input “arguments”.