

Zachary Johnson Lab 1 Writeup

2a) The use of π at line 4 is bound by line 2 because the value of π inside of the function circumference is different than the value outside of the function. The use of π at line 7 is bound at line 1 because π is used as a global variable.

2b) The use of x at line 3 is bound by line 2 because x is being taken as input in the function. The use of x at line 6 and line 10 is bound by line 5 because x is being used in the case on line 5 and both x 's are in the case. The use of x at line 13 is bound by line 1 because on line 1, x is global.

3) Yes, the body expression of g is well typed with type $((\text{Int}, \text{Int}), \text{Int})$. I determined this because I know that a is an integer, $a=1$, and $b = (x,3)$. I know that b is an integer tuple because the function defines x as an integer.

Formal argument:

$(b,1): ((\text{Int}, \text{Int}), \text{Int})$ because

$b: (x, 3): (\text{Int}, \text{Int})$ because

$x: \text{Int}$

$3: \text{Int}$

$1: \text{Int}$