

1. Binding and Scope

(a) The pi in line 4 is bound at line 3. The pi in line 7 is bound at line 1.

(b) The x at line 3 is bound at line 2. The x at line 6 is bound line 2. The x at line 10 is bound line 2. The x at line 13 is bound line 1.

2. Typing

(a) The program in question would be well-typed as the return in either case will be an Int, thus matching the declaration.

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

a: Int because

1 : Int

b : (Int, Int) because

x : Int

3 : Int