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Lab 1 Write up
CSCI 3155

It is bound to line 3 because of the scope from line 2 which ends on line 5. The pi on line 7 is bound to the pi on line 1. Since there is pi within the scope of area(r: Double) we use the pi from line 1.

The use of x on line 3 is bound to line 2 even though it is declared in line 1. The use of x at line 6 is bound at line 2. The use of x is also bound to line 2. The use of x in line 13 is bound to line 1 because it is not in the scope of the function.

3. Yes, the body of g is well-typed. The return type of g is ((Int, Int), Int). I believe it is this type because a is an int of x=1 and b is a int tuple of b = (x,3).

a: Int because

      1: Int

g: ((Int, Int), Int) because

      (b,1): ((Int, Int), Int) because

            b: (Int, Int)

                  x: Int

                  3: Int

            1: Int

      (b, a+2): ((Int, Int), Int) because

            b: (Int, Int)

                  x: Int

                  3: Int

            1: Int

            a+2: Int because

a: Int

2: Int