1. What is the difference between the following data types: Integers, Floats, Strings, Booleans?

Integers are whole numbers, floats are decimal numbers, strings are words/variables, and booleans are to check if values, int or str, that are true or false.

1. For the expression: 5 / 2
   * What is the result?
   * What is the data type of the result?

2.5-Float

1. Why don’t the following two expressions give the same result?
   * Expression 1: 4 + 5 / 2
   * Expression 2: (4 + 5) / 2

Because order of operations causes the parentheses to change the result of the second expression from the first.

1. For the expression: (5 / 2) > 3
   * What is the result?
   * What is the data type of the result?

False-Boolean

1. What is the index of character “Q” in the string “Python Quiz”?

7

1. Explain the result of the following sequence of expressions:
   * Dogs = 3
   * Cats = 4
   * Print (“Dogs” + Cats)

This gives an error because you are trying to add an int to a string which you or the program can not do.

1. Explain how to “fix” question 6 above.

Take the quotation marks off of ‘“Dogs”’.

1. Explain the result of each of the following two expressions and how they are different.
   * Expression 1: dogs = 5
   * Expression 2: dogs == 5

The first expression assigns the value of 5 to “dogs” and the second checks if “dogs” is equal to 5. These are different because the first one doesn’t return anything, whereas the second one returns True.

1. Explain the result of the following sequence of expressions:
   * Dogs = 3
   * Cats = 4
   * not ( cats == 4) or (dogs > cats)

It is comparing not true to false and it returns the statement false.

1. Explain how to change question 9 above to give a “True” result.

Take out not from the front of the third line.