1. What are the differences between operators and values in the following?

\*

'hello'

-87.8

-

/

+

6

**Answer:**

**\*,/,+,- -> These are operators used to perform certain action(\* -> multiplication, / -> division, + -> addition, - -> substraction) on variables and values.**

**‘hello’ -> is a type string when enclosed with single or double quotes.**

**-87.8,6 -> These are float & integer values respectively, where operators can perform actions on it.**

2. What is the difference between string and variable?

spam

'spam'

**Answer:**

**spam -> is a variable to store the information/values in a memory(example:- spam=’spam’)**

**‘spam’ -> is a type string we would store in a variables.**

3. Describe three different data forms.

**Answer:**

**1. Numeric -> this holds int, float data types used to store integer and float values respectively.**

**2. Sequence -> this holds list, tuple data types used to store different data types in a data structure**

**3. Boolean -> this can hold either true or false**

4. What makes up an expression? What are the functions of all expressions?

**Answer:**

**Expression is a combination of operators and variables that holds values.**

**Expressions can return the output after performing an action on the variables.**

5. In this chapter, assignment statements such as spam = 10 were added. What's the difference between a declaration and an expression?

**Answer:**

**Spam = 10 -> storing 10 to a variable in the memory location**

**Declaration -> create a variable to store any value in the memory**

**Expression -> performing some operation on the declared variable**

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

**Answer:**

**22, since we are saving the output of bacon+1 to bacon variable, it will not replace the 22 with 23.**

7. What should the values of the following two terms be?

'spam' + 'spamspam'

'spam' \* 3

**Answer:**

**'spam' + 'spamspam' -> here trying to concat the string**

**'spam' \* 3 -> trying to offset ‘spam’ string**

**'spamspamspam'**

**'spamspamspam'**

**Both output remains same.**

8. Why is it that eggs is a true variable name but 100 is not?

**Answer:**

**only true variable can store any type of data types or data structures and only integers cann’t make a variable.**

**Computers works on numbers 0s & 1s and memory address also represented in numbers, so we cann’t create a variable with numbers.**

9. Which of the following three functions may be used to convert a value to an integer, a floating-point number, or a string?

**Answer:**

**1. Value to integer -> int(a).**

**example: a=’10’**

**a=int(a)**

**2. Value to a floating point -> float(a)**

**Example:**

**a=’10.9’**

**a=float(a)**

**3. Value to a string -> str(a)**

**a=10**

**a=str(a)**

10. What is the error caused by this expression? What would you do about it?

'I have eaten ' + 99 + ' burritos.'

**Answer:**

**TypeError: can only concatenate str (not "int") to str**

**Covert the integer value to string to concatenate with other string using str command**

**'I have eaten ' + str(99) + ' burritos.'**

**'I have eaten 99 burritos.'**