**Assignment-1 Solution**

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**Q-1.** In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

**Solution: -**

\* -> Expression

'hello' -> Values

-87.8 -> Values

- -> Expression

/ -> Expression

+ -> Expression

6 -> Values

**Q-2.** What is the difference between string and variable?

**Solution: -** Variables are something that are used to store certain data in a program.

A String is itself a data, so it can be stored in a variable.

**Q-3.** Describe three different data types.

**Solution: -**

Numeric Data Type-> A Numeric datatype has integer, float and complex numbers as data.

Boolean Data Type-> A Boolean datatype has TRUE (1) and FALSE (0) as values.

Sequence Data Type-> A Sequence datatype has List, Tuple, Strings etc.

**Q-4.** What is an expression made up of? What do all expressions do?

**Solution: -** An expression is made up of operators and variables.

A value is represented in the form of an expression which is then evaluated to achieve different results.

**Q-5.** This assignment statements, like spam = 10. What is the difference between an expression and a statement?

**Solution: -**

Expression-> An expression is something that gives us a value/result when executed.

Statement-> A statement is something that does not return any value when executed but stays in the memory.

For Example: "spam = 10", It is a statement. It won't return any value to us but will be saved in the memory.

But "10 + 1", It is an expression as it returns 11 when executed.

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

bacon = 22

bacon + 1

**Solution: -** The variable bacon will contain 22 as it's value.

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

'spam' + 'spamspam'

'spam' \* 3

**Solution: -**

'spam' + 'spamspam' -> spamspamspam

'spam' \* 3 -> spamspamspam

In both the cases we will have the same output.

**Q-8.** Why is eggs a valid variable name while 100 is invalid?

**Solution: -** Variable names are supposed to start with alphabets not with numbers.

If we try to use 100 which is a number as variable it will give use a Syntax Error: “cannot assign to literal.”

**Q-9.** What three functions can be used to get the integer, floating-point number, or string version of a value?

**Solution: -**

For integer -> int()

For float -> float()

For Strings -> str()

**Q-10.** Why does this expression cause an error? How can you fix it?

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

**Solution: -**

This expression causes an error because Concatenation works only with Strings not with Integers.

To correct it we can use quotations or typecasting as shown below:

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

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