Assignment 1 - Python

**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.**

**\***

**'hello'**

**-87.8**

**-**

**/**

**6**

Ans 1:

Values are: ‘hello’

-87.8

6

Expressions are: \*

-

/

+

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

Ans 2:

A variable is a name that is given to a memory location with some values, however, a string is a type of value stored in a variable. A string is a collection of characters (including A-Z, a-z, 0-9, and special characters).

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

Ans 3:

‘int’ data type: for all positive and negative integers (only whole numbers for both.

‘str’ data type: A string is a collection of characters (including A-Z, a-z, 0-9, and special characters).

‘float’ data type: used for all floating point representations of real numbers (with decimal value).

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

Ans 4:

An expression consists of a set of values, variables, operators, and function calls that can be evaluated to generate a single value.

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

Ans 5:

Statements are often instructions or commands that carry out tasks or modify a program's state. Whereas an expression consists of a set of values, variables, operators, and function calls that can be evaluated to generate a single value. Expressions are used within statements.

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

**bacon = 22**

**bacon + 1**

Ans 6:

The variable bacon value will remain the same as 22 after running the code as the operation value is not being stored in the variable.

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

**'spam' + 'spamspam'**

**'spam' \* 3**

Ans 7:

**'spam' + 'spamspam'** Output will be : ‘spamspamspam’

**'spam' \* 3** Output will be: ‘spamspamspam’

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

Ans 8:

A variable name can have A-Z, a-z, 0-9 and an underscore(\_), but it cannot start with a number. Hence ‘eggs’ is a valid variable name as it is a string of lowercase alphabets, however, 100 is not valid as it is only a number, and a variable cannot be only a number or start with a number.

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

Ans 9:

int(), float(), and str() these functions can be used to get the integer, floating-point number, or string version of a value.

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

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

Ans 10:

**'I have eaten ' + 99 + ' burritos.'** This statement causes an error as we are concatenating two different data types. Quotation marks include string type value however 99 is integer thus concatenation without typecasting is causing the error.

We can fix it as follows:

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