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.

\* - This is an expression

'hello' - This is a value

-87.8 - This is a value

- - This is an expression

/ - This is an expression

+ - This is an expression

6 - This is a value

2. What is the difference between string and variable?

Answer: String is a data type and used to fill variables with this data and variable is an object/location which can store/hold information/data.

3. Describe three different data types.

Answer: Different data types are int, string, float, Boolean, tuple, list, dictionary

Tuple: This can store any type of data and denoted with in “()”. Tuples are immutable

List: This can store any type of data and denoted with in “[]”. List are mutable

Dictionary: This can store any type of data and denoted with in “{}”. This contains data in terms of a ‘key : value’ pair. Dicts are mutable

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

Answer: Expression is made of operators and variables and methods. This can perform any operations and give result or output. Example. mathematical operations such as add, subtract, multiply, divide.

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

Answer: Statement is declaring a variable and assigning data into them or print the data stored in a variable.

Expression is consisting of variables and operators which perform certain tasks and gives the result/value.

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

bacon = 22

bacon + 1

Answer: 22

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

'spam' + 'spamspam' ->Output: spamspamspam

'spam' \* 3 ->Output: spamspamspam

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

Answer: Numbers can’t be used in the first place or starting character of variable names. Letters can be used in any place in the variable names declaration. Hence eggs is valid and 100 is invalid.

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

Answer: int() – integer

float() – Floating point number

str() – String

type(\*) – This gives the data type of the data passed which can be any of the above based on what we provide.

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

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

Answer: This expression gives error because data types are different to perform the operation. Below expression is fixed to give output:

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