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

🡪 Values : ‘hello’, -87.8, 6

Expressions : \*, -, /, +

2. What is the difference between string and variable?

🡪 String: It is a type of information. It can be stored within single quotes (‘xuz’) or double quotes (“xyz”)

Variable: It is a container (identifier) to store a value in a memory location.

Eg: x = “xyx” 🡪 here, x is variable and “xyz” is string

3. Describe three different data types.

* int: Stands for integer. These are used to store whole numbers.
* float: These are used to store decimal numbers.
* str: Stands for string. These are used to store string representations.

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

🡪 An expression consists of operators and operands. All expressions give some sort of output, which is its value.

Eg: x = 5 + y 🡪 Here, + is the operator and 5, y are the operands. Suppose y = 3, then x = 5 + 3 = 8; Therefore, value of the expression is 8.

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

🡪In an expression, mathematical operators like +,-,\*,/,% are involved.

In a statement, only the “=” operator is present, which is used to store/assign a value in a variable.

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

bacon = 22

bacon + 1

🡪 bacon + 1 = 23

But if bacon itself is run again, the output will be 22.

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

'spam' + 'spamspam'

'spam' \* 3

* 'spam' + 'spamspam' 🡪 'spamspamspam'
* 'spam' \* 3 🡪 'spamspamspam'

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

🡪 100 is not a valid variable name as variable names can’t begin with a number.

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

* integer: int()
* floating-point: float()
* string: str()

Eg: a = 5

int(a) = 5

float(a) = 5.0

str(a) = ‘5’

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

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

🡪 This expression gives an error because the data type don’t match, only str to str can be concatenated and not str to int.

It can be fixed as:

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