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?

* A string is a sequence of characters enclosed within quotes (either single or double).
* A variable is a symbolic name that represents or refers to a value. It can hold different types of data.

3. Describe three different data types.

* Integer: Whole numbers without any decimal points, e.g., 5, -3, 100.
* Float (floating-point number): Numbers that have decimal points, e.g., 3.14, -0.5, 2.0.
* String: A sequence of characters, e.g., 'hello', "world", '123'.

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

* An expression is made up of values, variables, and operators. It evaluates to a value.
* Expressions perform operations such as arithmetic computations or string manipulations.

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

* An expression evaluates to a value.
* A statement performs an action. It can contain expressions but doesn't necessarily return a value.

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

bacon = 22

bacon + 1

* The variable bacon still contains 22 because the expression bacon + 1 doesn't modify the value of bacon unless reassigned.

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

'spam' + 'spamspam'

'spam' \* 3

* 'spam' + 'spamspam' results in 'spamspamspam'
* 'spam' \* 3 results in 'spamspamspam'

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

* Variable names cannot start with a number. So, "eggs" is valid because it starts with a letter, but "100" is invalid because it starts with a number.

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

* int() - to get the integer version of a value
* float() - to get the floating-point version of a value
* str() - to get the string version of a value

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

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

* This expression causes an error because you're trying to concatenate a string ('I have eaten ') with an integer (99) directly. To fix it need to convert the integer to a string:
* Pythan Code: 'I have eaten ' + str(99) + ' burritos.'
* This will result in: 'I have eaten 99 burritos.'