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.

\* - Expressions

'hello' - Expressions

-87.8 - Values

- - Expressions

/ - Expressions

* - Expressions

6 - Values

2. What is the difference between string and variable?

Variables are symbols where we can use to store data in a program. whereas Strings are data which we can use them to fill up a variable.

3. Describe three different data types.

* Integer (int): Integers are whole numbers without any decimal points. They can be positive or negative.
* Floating-Point (float): Floating-point numbers represent decimal values. They can be positive or negative and may contain a decimal point.
* Boolean Data Type (bool): Represents either True or False, used for logical operations and conditions.

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

An expression is a combination of values, variables, operators, and calls to functions. Expressions need to be evaluated. To print an expression, it evaluates the expression and displays the result.

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

A statement is used for creating variables or for displaying values whereas an expression produces some value or result after being interpreted by the Python interpreter.

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

bacon = 22

bacon + 1

The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1)

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

'spam' + 'spamspam'

'spam' \* 3

Both expressions evaluate to the string 'spamspamspam'

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

Variable names do not begin with a number.

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

The int(), float(), and str() functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

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

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

The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.'.