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**: Values are: ‘hello’, -87.8, 6

Expressions: \*, -, /, +

2. What is the difference between string and variable?

**Ans**: A string is a sequence of characters, enclosed in quotes whereas variable is a name assigned to a value. It can hold different types of data, including strings

3. Describe three different data types.

**Ans**:

**Integer**: Whole numbers without a fractional component, e.g., 5, -10.

**Float**: Numbers with a decimal point or in exponential form, e.g., 3.14, -0.001.

**String**: A sequence of characters e.g., 'hello'

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

**Ans**: An expression is made up of values and operators and evaluates to a single value. Expressions perform operations and produce results, like mathematical operations or combining strings

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

**Ans**: An expression is a combination of values and operators that can be evaluated to produce a result. A statement is a complete line of code that performs some action. An assignment statement, like spam = 10, assigns a value to a variable

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

bacon = 22

bacon + 1

**Ans**: As result of bacon+1 not assigned then result is 22

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

'spam' + 'spamspam'

'spam' \* 3

**Ans**:

1=> ‘spamspamspam’

2=> ‘spamspamspam’

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

**Ans**: eggs is valid, but 100 is invalid because it starts with a numeric character. Variables can’t start with numeric value

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

**Ans**:

int(): To convert a value to an integer.

float(): To convert a value to a floating-point number.

str(): To convert a value to a string.

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

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

**Ans**: As 99 is an integer value and other 2 parts are of string type you will get error because of different data type. To fix this, convert 99 to string first and then perform the same again.