**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**

**Answer:**

**\* Expression (multiplication operator)**

**'hello' → Value (string)**

**-87.8 → Value (floating-point number)**

**- → Expression (subtraction operator)**

**/ → Expression (division operator)**

**6 → Value (integer)**

**2. What is the difference between string and variable?**

**Answer:**

A string is a sequence of characters enclosed in quotes (e.g., "hello").

A variable is a named reference that stores data, such as a string, integer, or other data types (e.g., name = "hello")

**3. Describe three different data types.**

**Answer:**

integer (int): Whole numbers (e.g., 10, -5)

Floating-point (float): Decimal numbers (e.g., 3.14, -0.99)

String (str): Text enclosed in quotes (e.g., "Python", 'Hello')

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

**Answer:**

An expression is made up of values, variables, and operators.

Expressions evaluate to a single result (e.g., 2 + 3 evaluates to 5).

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

**Answer:**

An expression produces a value (e.g., 3 + 4 evaluates to 7).

A statement performs an action (e.g., spam = 10 assigns a value but does not return anything).

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

**bacon = 22**

**bacon + 1**

**Answer:**

The value of bacon remains 22 because bacon + 1 does not update bacon. To change it, we would need bacon = bacon + 1

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

**'spam' + 'spamspam'**

**'spam' \* 3**

**Answer:**

'spam' + 'spamspam'

**Output**: 'spamspamspam'

'spam' \* 3

**Output**: 'spamspamspam'

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

**Answer:**

Variable names must start with a letter or an underscore (\_), but not a number. 100 is invalid because it starts with a digit.

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

**Answer:**

**int(value):** Converts to an integer.

**float(value):** Converts to a floating-point number.

**str(value):** Converts to a string.

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

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

**Answer:**

The error occurs because 99 is an integer and cannot be concatenated with strings.

**Fix:** Convert 99 to a string: