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:

Values:

'hello' (string)

-87.8 (float)

6 (integer)

Expressions:

\* (multiplication operator)

-(subtraction operator)

/ (division operator)

+(addition operator)

2. What is the difference between string and variable?

Answer:

A string is a specific data type used to represent textual data, while a variable is a named container that can hold values of various types which can use later.

3. Describe three different data types.

Answer:

Integer (int): represents whole number.  
Floating-point number (float): represents numbers with decimals.  
String (str): represents sequence of characters used for storing and manipulating textual data.

4. What is an expression made up of? What do all expressions do?  
  
Answer:  
It's like a recipe that tells the computer what to do with the given data to get a specific result. in summary, expressions combine operands and operators to compute or manipulate data in programming.

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

Answer:  
Expression: Combination that evaluates to a value.

Statement: Complete line of code performing an action.

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

bacon = 22

bacon + 1

Answer:

The variable bacon contains the value is 22.

The expression bacon+1 evaluates to 23 and its not assigned back to bacon variable.

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

'spam' + 'spamspam'

'spam' \* 3

Answer:

'spam' + 'spamspam' answer will be 'spamspamspam' the + operator concatenates two strings.

'spam' \* 3 the answer will be ‘spamspamspam' the operator repeat the string ‘spam’ three times.

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

Answer:

Since eggs variable is a string so we can use this as variable name where as 100 is a numeric so can’t use a numeric in the beginning of the variable

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

Answer:

Integer: int()  
Floating-pointnumber: float()  
String: str()

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

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

Answer:

The reason of the error is that its trying to concatenate the string and integer directly

To fix the error, we can convert integer value into string as below:

'I have eaten ' + str(99) + ' burritos.'