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-

'hello' → Value (string)

-87.8 → Value (floating-point number)

6 → Value (integer)

2. What is the difference between string and variable?

ans-

A string is a value.It is a sequence of characters enclosed in quotes (single ' ' or double " ").

A variable is a name that stores a value (like a string, number, etc.).

It can hold strings, numbers, lists, or other data types.

3. Describe three different data types.

1). Integer (int)-Represents whole numbers (no decimal point).

2). Float (float)- Represents numbers with decimal points.

3). String (str)- Represents text or a sequence of characters, enclosed in quotes.

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

ans-

An expression is made up of values, variables, and operators that are combined to produce a result.

Parts of an Expression:

1). Values – actual data (like numbers or strings)

Example: 5, 'hello'

2). Variables – names that store values

Example: x, total

3). Operators – symbols that perform actions

Example: +, -, \*, /

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

ans

Expression-An expression is anything that evaluates to a value.

It can be a combination of values, variables, and operators.

Always returns a result.

Statement- A statement is a complete instruction that Python can execute.

It does something (like assigning a value, looping, or printing).

It may or may not return a value.

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

bacon = 22

bacon + 1

ans

bacon = 22 → assigns the value 22 to the variable bacon.

bacon + 1 → evaluates to 23, but does not change the value of bacon unless you assign it back.

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

'spam' + 'spamspam'

'spam' \* 3

ans-

'spam' + 'spamspam'

This is string concatenation.

It joins the two strings together:

'spam' + 'spamspam' → 'spamspamspam'

'spam' \* 3

This is string repetition.

It repeats the string 'spam' three times:

'spam' \* 3 → 'spamspamspam'

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

ans-

It starts with a number, which is not allowed in Python.

Python variable names must begin with a letter (a–z, A–Z) or an underscore (\_).

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

ans- int() , float(), str()

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

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

ans-

This line:

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

tries to add a string ('I have eaten ') to an integer (99), which Python does not allow directly.

Error type:

TypeError: can only concatenate str (not "int") to str