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

A = input(" Enter the value for checking = ")

if A == '\*' or A == '/' or A == '+' or A == '-' :

    print("Value for A: is expressions ")

elif A == 'hello' :

    print("Value for A is String")

elif A == '-87.8' or A == '6' :

    print("Value for A is Integer")

2. What is the difference between string and variable?

A string is a value representing text, while a variable is a name that can refer to any value. Quotes, double or single, are used to create string literals, while variables are used to store data. A string is a literal text string, while a variable can store any type of data1.

3. Describe three different data types.

Python has several built-in data types. Here are three of them:

Numeric data types: int, float, complex

String data type: str

Sequence types: list, tuple, range

Numeric data types are used to represent numbers1. Integers (int) represent whole numbers such as 1, 2, 3, etc. Floats (float) represent real numbers such as 1.0, 2.5, 3.14 etc. Complex numbers (complex) are represented by a real part and an imaginary part.

String data type is used to represent text1. Strings are enclosed in quotes (either single or double quotes).

Sequence types are used to represent ordered collections of items or elements Lists (list) are mutable sequences of items that can be changed after they are created. Tuples (tuple) are immutable sequences of items that cannot be changed after they are created. Ranges (range) represent an immutable sequence of numbers between two integers.

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

An expression is a combination of operators and operands that is interpreted to produce some other value. In any programming language, an expression is evaluated as per the precedence of its operators. So that if there is more than one operator in an expression, their precedence decides which operation will be performed first.

In Python, expressions consist of values (such as 2) and operators (such as +), and they can always evaluate down to a single value. Expressions may be of the following types:

1. Constant Expressions

2. Arithmetic Expressions

3. Integral Expressions

4. Floating Expressions

5. Relational Expressions

6. Logical Expressions

7. Bitwise Expressions

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

In Python, an expression is a combination of values, variables, operators, and function calls that evaluates to a value.

Expressions produce at least one value.

A statement is a complete line of code that performs some action. Statements create side effects to be useful. A statement is not evaluated for some result. A statement is used for creating variables or for displaying values.

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

bacon = 22

bacon + 1

Ans-

22

<class 'int'>

22

<class 'int'>

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

'spam' + 'spamspam'

'spam' \* 3

Ans-

spamspamspam

spamspamspam

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

In Python, variable names cannot begin with a number. Therefore, 100 is an invalid variable name. On the other hand, eggs is a valid variable name because it starts with a letter.

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

In Python, the following three functions can be used to get the integer, floating-point number, or string version of a value:

int() - returns an integer object from a number or string.

float() - returns a floating-point number object from a number or string.

str() - returns a string object from an object that can be represented as a string.

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

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

This expression causes an error because you cannot concatenate a string and an integer. To fix it, you can convert the integer to a string using the str() function:

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