**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.**

\* expression

'hello' value

-87.8 value

- expression

/ expression

+ expression

6 value

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

*Variables* are named memory location used to store, access and manipulate values during programming, whereas string is a type of variable in python which is enclosed in either single quotes or double quotes. Strings may include characters, numerals and special symbols

Unlike other programming languages, Python is a dynamically typed programming language where a variable declaration is not required prior to its assignment. Whenever a variable declaration is encountered, Python interpreter automatically assigns appropriate variable type to it.

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

Numbers: The number datatype consist of variables with numerals. It may be further divided into – integers, float and complex types. Integer variables contain real values. Float variables contain decimal numbers. Complex variables consist of real and imaginary parts.

Ex. a , b, c = 10, 12.45, 1+2j

Boolean: In this type of data the values can be either True or False.

Ex. a = 10

result = a == 10

print(result)

String: It is a type of variable in python which is enclosed in either single quotes or double quotes. Strings may include characters, numerals and special symbols

Ex. str=”Hello world”

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

An expression is made up of operands and operators. Operands can be either values or variables. Operators can be arithmetic, logical, etc.

An expression always evaluates to a value.

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

An expression is evaluated to some value, while statements have no evaluated value. Thus, expressions can be used in statements, but not the other way around.

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

bacon = 22

bacon + 1

The variable bacon will still hold the value 22. This is because there was no assignment to its value upon increment by 1.

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

'spam' + 'spamspam' 🡪 'spamspamspam'

'spam' \* 3 🡪 'spamspamspam'

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

The variable name can begin only with alphabet and underscore. Since 100 begins with a numeral, its an invalid variable name

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

integer 🡪 int ()

floating-point number 🡪 float ()

string 🡪 str ()

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

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

The concatenation operator ‘+’ is trying to concatenate string with an integer and that is showing TypeError: must be str, not int.

Correct format is – print ('I have eaten ' + str (99) + ' burritos.')