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', -87.8, 6

Expressions: \*, -, /, +

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

* **String:** A string is simply a series of characters. Anything inside quotes is considered a string in Python, and you can use single or double quotes around your strings.
* **Variable:** Variables are nothing but reserved memory locations to store values. This means that when you create a variable you reserve some space in memory.

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

* **Integers**– This value is represented by int class. It contains positive or negative whole numbers (without fraction or decimal). In Python there is no limit to how long an integer value can be.
* **Float**– This value is represented by float class. It is a real number with floating point representation. It is specified by a decimal point. Optionally, the character e or E followed by a positive or negative integer may be appended to specify scientific notation.
* **Complex Numbers** – Complex number is represented by complex class. It is specified as *(real part) + (imaginary part) j.* For example – 2+3j

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

**Answer:** Expression is made up of values, containers, and mathematical operators (operands) e.g., a = 2 + 3 and expressions are used to evaluate the values or represent the result on the screen.

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

Expression is made up of values, containers, and mathematical operators (operands) and the statement is just like a command that a python interpreter executes like print.

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

bacon = 22

22

bacon + 1

23

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

'spam' + 'spamspam'

'spamspamspam'

'spam' \* 3

'spamspamspam'

It will be the same.

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

**Rules for creating variables in Python:**

* A variable name must start with a letter or the underscore character.
* A variable name cannot start with a number.
* A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ ).
* Variable names are case-sensitive (name, Name and NAME are three different variables).
* The reserved words(keywords) cannot be used naming the variable.

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

**Answer:** str(), int(), float()

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

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

**Answer:**

Because 99 is an integer it cannot be concatenated with strings, if we have to concatenate it we need to do typecasting.

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

'I have eaten 99 burritos.'