**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.**

\* Mathematical operator

'hello' String

-87.8 Float

- Mathematical Operator

/ Mathematical Operator

+ Mathematical Operator

6 Integer

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

String represents the text in python. String can be used to represent categorical data like nominal and ordinal data.

Variable means container that holds the data the variable value can be changed means that the container can hold the different data.

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

Int this datatype is used to represent whole numbers. Example: 1, 99, -88 etc.

Float this datatype is used to represent floating point numbers. Example: 2.66, -0.98, 3.0 etc.

String this datatype is used to represent the text values. Example: “Bangalore”, “Rohit” etc.

Bool this datatype is used to represent the Boolean values like True or False.

Complex this datatype is used to represent complex values. Example: 2+3j where 2 is real part and 3 is imaginary part.

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

In python Expression is made up of operators, variables, constant values. The expression has to be evaluated in order to get the result.

All the expressions return some kind of result when evaluated.

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

Assignment statements are used to assign the value to the variable.

Example: a=10, b=a

Expressions usually contains mathematical operators and variables. These expression provide result after evaluation.

Example: a=10

b=a+10\*2

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

bacon = 22

bacon + 1

After running above code bacon still contains 22 only

**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?**

In python variable name should contain only alphanumeric characters and underscore character and the variable name can start with either alphabet or underscore but it can not start with numeric. That’s why ‘eggs’ is valid variable name but 100 is not.

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

Int() is used to get integer version of value.

Float() is used to get float version of value.

Str() is used to get string version of value.

All these functions take value as parameter/argument.

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

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

The above expression leads to error because 99 is integer value so concatenation of string with integer using the ‘+’ operator gives the error. We need to convert 99 to string before concatenation.

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