**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:**

\* is multiplication operator

‘hello’ is string

-87.8 is float

- is subtraction operator

/ is division operator

+ is addition operator

6 is integer

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

**Answer:**

String is a data type and a variable is a container of data. A variable can contain any kind of data (e.g., string, integer, float etc.)

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

**Answer:**

1. String – it is an immutable data type, a collection of characters (example – “asdsd234”)
2. Dictionary – dictionary is a data type which contains data in key value pairs. Each value can be accessed by corresponding key. (example – {“Name” : “Arnab”, “Age” : 30 } )
3. Tuple – tuple is an immutable collection of items. Items of a tuple can be any data type. (example - ("Hello", 10, [12, 13]) )

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

**Answer:**

An expression is a combination of operator and variable. An expression is interpreted by python interpreter and the result is assigned to variable.

Example: x = x\*\*2 – here the expression x\*\*2 calculates the square of x and the entire statement assigns the value to variable x

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

**Answer:**

In assignment like spam = 10 no calculation is done by python interpreter, it only assigns 10 to variable spam.

In a statement like double\_spam = spam\*2, first the python interpreter calculates the value of the expression spam\*2, then the value is assigned to new variable double\_spam.

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

**bacon = 22**

**bacon + 1**

**Answer:**

Value of bacon will be 22.

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

**'spam' + 'spamspam'**

**'spam' \* 3**

**Answer:**

In both the cases the output will be ‘spamspamspam’

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

**Answer:**

A variable name cannot start with numeric character.

**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:**

Python cannot concatenate string to integer. Here 99 is an integer. The statement can be corrected as -

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