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

Ans:

**\*        ----expression**

**'hello'  ------value**

**-87.8    ------value**

**-    -------expression**

**/       -------expression**

**+   ------expression**

**6  -------value**

2. What is the difference between string and variable?

Ans:

**A variable is basically the name of the location in the primary memory of your computer. This can be chosen by you. A variable can store everything from strings to numbers.**

**A string is the values inside the quotes assigned to a string.**

**A variable can hold a string, but a string can't hold a variable**

3. Describe three different data types.

Answer:

**Python has several datatypes.**

* **Int. (numbers without decimal).**
* **Float. (decimal values).**
* **Boolean (True or False).**
* **None (After declaring if u don’t want to give value to the variable you can use None).**
* **String (combination of 1 or more characters).**
* **List (Array like structure but you can store any datatype).**
* **Tuple (Same as list but we can’t do changes once its created).**
* **Set (unique set of arrays).**
* **Dictionary (key value pair).**

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

Ans:

**An expression is any sequence of literals (strings, numbers, lists, sets, tuples), objects, function calls, identifiers combined with a variety of operators which results in a value - regardless of whether of the resulting value is an object, or a number, or even a None. So examples of expressions are :**

* **‘Hello World’ - this is a string literal**
* **23.6 - this is a floating-point literal**
* **{1,2,3,4} - a set literal**
* **my\_func(1,2,3) - a function call (even if the function returns None)**
* **2 + the\_number \* math.factorial(7) - a combination of literals, operators, identifiers and function calls**

**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?

Ans:

**A statement is a complete line of code that performs some action, while an expression is any section of the code that evaluates to a value. Expressions can be combined “horizontally” into larger expressions using operators, while statements can only be combined “vertically” by writing one after another, or with block constructs. Every expression can be used as a statement (whose effect is to evaluate the expression and ignore the resulting value), but most statements cannot be used as expressions**

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

bacon = 22

bacon + 1

Ans**: 23**

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

'spam' + 'spamspam'

'spam' \* 3

Answer:

**Both expressions gives the same result i.e 'spamspamspam'**

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

Answer:

**we can't start giving variable an integer name. if we, we should begin with, a string-like alphabet name then integer. e100 or eggs100 is valid**

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

Ans:

**str(), int() and 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 and it cannot be concatenated with strings, if we have to concatenate it we need to do typecasting.**