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?

Strings are the collection of the characters/letters/alphabets, etc. These are the Immutable. While Variables are the ones that stores some data to give to the program for its successful completion. Examples of Variables: a, b, c, x, etc. and examples of strings: ‘abs’, ‘xyz’, ‘65’, etc.

3. Describe three different data types.

There are many data types in python. The basic data types are String, Integer, Float.

* **String:** The collection of characters/alphabets/numbers is known as strings. These are among most widely used data types in python language. Strings are immutable; therefore, these cannot be changed after declaration.
* **Integers:** These are numbers that can range from negative infinity to the positive infinity. These do not include decimal point numbers. Example: 3, 4, 5, 1, etc.
* **Float:** These are all values that can represented in the form of p/q i.e., the values that can be represented in the form of decimals. For examples: 1.0, 1.23, 1.43, etc.

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

An expression is made up of variables, operators which can be written in accordance with the syntax of the language. All **expressions represent values**. In fact, the expressions give us single value.

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

An expression evaluates some value while statement assigns value to the variable.

Example: **spam=10** is a **statement** while **spam+1** is an **expression**

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

bacon = 22

bacon + 1

Bacon will contain value of **23**

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

'spam' + 'spamspam'

'spam' \* 3

The value of first term would be **‘spamspamspam’**

And the value of second term would be **‘spamspamspam’**

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

Python accepts first character as a alphabet or underscore. Therefore,

**Eggs** is a **valid name** because it’s first character is accepted as a variable name by the python language, while **100** does not contain any character that starts with letter or with underscore. Therefore, **100 is an invalid variable name**.

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

For integer type: **int()**

For Float type: **float()**

For string type: **str()**

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

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

This expression will cause an error because of **wrong concatenation** of string and integer data type.