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.**

\* = **This is an Expression (**Mathematical operator for multiplication**)**

'hello' = **This is an value (**it contains a string value**)**

-87.8 = **This is an value (**This is an floating value**)**

- **This is an Expression (**Mathematical operator for subtraction**)**

/ = **This is an Expression (**Mathematical operator for Division**)**

+ **This is an Expression (**Mathematical operator for Addition**)**

6 = **This is an value (**it contains a integer value**)**

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

Ans:

* String is a value which is representing a set of characters mention in quotes. Eg.’Abc’,’21tha’ etc.
* Variable use to store a value in a memory location and to manipulate it if needed. Eg. X = ‘abc’, a = 12

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

Ans :

* **String:**

String data type is the data type which stores the values in form of string.

We can assign any value to the variable as string using quotes. Any value which is mention is quotes are string value. That Quotes can be Single quotes (‘ ‘), Double quotes(“ ”) or triple quotes(‘’’ ‘’’) . e.g. ‘xyz’, “A2B3C4”, ‘’’2342’’’

* **Boolean:**

Boolean is a built in data type in python which helps to store the Boolean values which is defined by the True or False keywords. E.g. **a = True.**

* **Int:**

Integer data type is a data type which allows storing the numerical data without any decimal point. For e.g. a = 2, b = 3, c = 4. We don’t need any quotes to store integer values

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

Ans:

An expression is a combination of values and operators. All expressions evaluate (that is, reduce) to a single value.

An expression is a sentence with a minimum of two numbers and at least one math operation. This math operation can be addition, subtraction, multiplication, and division. For e.g. a = 7 + 9

If you ask python to print an expression, the interpreter evaluates the expression and displays the result.

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

**Ans:**

An expression evaluates to a single value. A statement does not. We can use statement like print statement.

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

**bacon = 22**

**bacon + 1**

**Ans:** value of bacon is 22. The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon. If we have to reassign value then we have to do bacon = bacon + 1

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

**'spam' + 'spamspam'**

**'spam' \* 3**

**Ans:** Values of both terms will be ‘spamspamspam’

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

**Ans: eggs** is valid variable name because its starts from character and **100** is invalid variable name because its starts from number. According to the variable declaration rule a variable name must start from a alphabet or (\_) underscore. Variable names cannot begin with a number.

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

**Ans:** The int(), float() and str() functions will evaluate to the integer, floating point number, and string version of the value passed to them.

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

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

**Ans:** Above expression will causes an TypeError. Because, we can concatenate only string type and 99 is an numerical value.

We have to typecast integer into string using str() then we can concatenate 99 into expression.

Solution is : **‘I have eaten ‘ + str(99) + ‘ burritos’**