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' **= values**

-87.8 **= values**

- **= expression**

/ **= expression**

* **= expression**

6 **= values**

2. What is the difference between string and variable?

**Ans: string is the value for the data and it can be numerical or alphabetical or special characters which is noted in between the double quotation mark. Variable are value index for the data to store and it has some restriction of characters and words to it. We cannot use the inbuilt operation functions, for the variable and some of the special characters like @ since it shows the error. Number along with the alphabet characters can be used as variables but not numerical characters alone as a variable**

3. Describe three different data types.

**Ans: Integer (int) is a data type for the numerical value which can be subjected to the mathematical operation**

**String (str) is a data type for the values includes alphabetical, numerical (which does not able to include in the mathematical operation), and special characters. And it is denoted inside the quotation mark.**

**Complex is a data type where the imaginary function is been included eg: 3+2j (‘j’ is the only imaginary function)**

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

**Ans: expression made of mathematical symbols like +,-,\*,/ and it performs the mathematical operations like addition, subtraction, etc.**

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

**Ans: expressions are the mathematical operations that need to be performed. They are included in the statements. Statements are the sentence of notation or the operation that need to be performed by giving the value or any short of command or used to assign any data to the variable.**

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

bacon = 22

bacon + 1

**Ans: The variable bacon contains 22 since in the second line the resultant variable is not mentioned so the value of the bacon unchanged.**

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

'spam' + 'spamspam' **= spamspamspam**

'spam' \* 3 **= error (string and integer cannot be mathematically operated)**

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

**Ans: For the variable numerical characters are not allowed so 100 is invalid for the variable name.**

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

**Ans: Integer = int**

**Floating-point number = float**

**String value = str**

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

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

**Ans: the mathematical operation cannot be done to the string and the integer value and it can be rectify by converting the integer value into the string operation**

**‘I have eaten’ + str(“99”) + ‘burritos’**

**Or**

**‘I have eaten’ + ‘99’ + ‘burritos’**