1. In the below elements which of them are values or an expression? E.g.: - values can be

integer or string and expressions will be mathematical operators.

\*

'hello'

-87.8

-

/

+

6

**Ans.** In the above elements ‘hello’, -87.8, 6 are values and \*, - , /, + are expression.

2. What is the difference between string and variable?

**Ans.** Variables are symbols that you can use to store data in a program. Strings are data, so we can use them to fill up a variable.

E.g.: - X=” Welcome to Ineuron”. Here X is the variable, we declared it as a string.

3. Describe three different data types.

**Ans.**

Numeric: represents numerical values, including integers and floating-point numbers.

E.g.: - 5 (integers), 7.0 (floating-point numbers).

Text: represents character strings, such as words and sentences.

E.g.: - ‘Dhruba’, ‘I am in fsds 2.0 batch’.

Boolean: represents binary values, either true or false.

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

**Ans.** Expression is a combination of operators and operands that is interpreted to produce some other values. In any programming language, an expression is evaluated as per the precedence of its operators.

Expressions are representation of value. They are different from statement in the fact that statements do something while expressions are representation of value. For example, any string is also an expression since it represents the value of the string as well.

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

**Ans.** An expression is a piece of code that returns a value, while a statement is a complete instruction that performs an action.

For example, the assignment statement "spam = 10" is a statement that assigns the value 10 to the variable "spam". The expression "10" returns the value 10, but it is not a statement on its own and needs to be part of a statement to perform an action.

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

bacon = 22

bacon + 1

**Ans.** The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1)

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

'spam'+'spamspam'

'spam'\*3

**Ans.** The values of the following two terms be **'**spamspamspam**'**

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

**Ans.** In programming, variable names are typically composed of letters, numbers, and underscores, but cannot start with a number. "eggs" is a valid variable name because it starts with a letter, while "100" is invalid because it starts 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() function will be evaluate the will evaluate to the string, floating-point numbers and string versions of the value passes to them.

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

‘I have eaten’ + 99 + ‘burritos.’

**Ans.** The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.'.