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?

Ans. Variable is where you store data and is generally a short name; it cannot start with a number. It can be alphanumeric or start with an underscore. It is case sensitive. Eg; count, \_num2, var4.

String is a type of data which can be given under a variable name. It can have any character in it, it is always starts and ends with either single or double quotes. Eg; ‘rajath’, ‘@what#’, ‘123’, ‘car89’.

3. Describe three different data types.

Ans. Integer: Integers are the type of data used to represent numbers, these can be positive or negative but not decimal values. Eg; 10, -15, 12345678.

Floats: Floats are another data type used to represent numbers and can exist as positive or negative decimal values. Eg; 3.14, 6.0006, -5.76.

Boolean: Boolean is a logical data type that is mainly used for checking whether an expression is logically true or not. It has only two possible values which are True and False.

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

Ans. Expression is a combination of operators and operands. All expressions are interpreted to produce other value. Eg; 10+13, 2/0.5.

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

Ans. An expression calculates to produce other value. Assignment statements are just used to define a particular variable.

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

bacon = 22

bacon + 1

Ans. bacon will still contain 22 as its value.

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

'spam' + 'spamspam'

'spam' \* 3

Ans. The answer for both will be ‘spamspamspam’

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

Ans. Variable name 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. int(), float(), str().

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

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

Ans. This shows an error because the plus operator cannot be used between a string and an integer data type. Strings can be concatenated only with other strings.

We can fix it by adding a single quote before and after 99: 'I have eaten ' + ‘99’ + ' burritos.'

or else entirely remove the int value from the expression so only 2 strings remain: 'I have eaten ' + ' burritos.'