**Please note:**

The answers are in blue

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**

1. What is the difference between string and variable?

A variable can be thought of as a container for a data item. While a string is a specific type of data item

1. Describe three different data types.

Strings - They are a continuous set of characters enclosed within quotation marks

Numeric Data types: They are composed of the following three subtypes:

Integer - They contain positive or negative whole numbers.

Float - They contain all real numbers, negative or positive.

Complex - This data type is used for complex numbers.

Boolean - Variables/data items whose values are/can be set to either ‘True’ or ‘False’ are part of the boolean data type

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

An expression usually refers to a piece of code that can be evaluated to a value, and is composed of variables, operators, function calls, and literals.

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

An expression is any valid unit of code that resolves to a value whereas a statement is a piece of code that executes a specific instruction or tells the computer to complete a task. A statement can take the form of assignments, control statements, import statements, loop statements, jump statements, or method calls.

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

bacon = 22

bacon + 1

22

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

'spam' \* 3

spamspamspam

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

According to the variable naming convention in python, a variable name should:

1. Start with a letter or an underscore.
2. A variable cannot start with a number.

Therefore, in light of the above mentioned rules **eggs** is a valid variable name, while **100** is invalid.

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

int()

float()

str()

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

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

The + operator can only concatenate two strings; however, in the above statement 99 is an integer, that is why the statement causes an error. This can be rectified by defining 99 as a string, i.e. by enclosing it within commas.

Therefore the correct statement would be: 'I have eaten ' + '99' + ' burritos.'