Python Assignment 1

1. **Which of these are values and expressions in Python**

\* 🡪 Expression

‘hello’ 🡪 Value

-87.8 🡪 Value

- 🡪 Expression

/ 🡪 Expression

+ 🡪 Expression

6 🡪 Value

1. **Difference between string and variable**

String – String is a data type which represents a sequence of characters. It is used to store textual data such as words, sentences, or even single characters. In Python strings are immutable meaning that you cannot change it. Strings can be created using single, double or triple quotes.

Variable – Variable is a named storage location that holds a value in Python. It allows you to store and refer to data within a program. Variables are used to store different types of data, including strings. They provide a way to assign a value to a name and use that name to access and manipulate stored data.

1. String(str) – String is a data type which represents a sequence of characters. It is used to store textual data such as words, sentences, or even single characters. In Python strings are immutable meaning that you cannot change it. Strings can be created using single, double or triple quotes.

Integer(int) – Integer data type represents numbers both positive and negative without any decimal points. Integers can be used to perform operations such as addition, subtraction, multiplication and division.

Boolean (bool) – The boolean data type represents the truth values of logic and is used to express either true or false. Booleans are often used for comparisons, conditional statements, and control flow.

1. Expressions are combinations of values, variables, operators, and function calls that are evaluated to produce a resulting value. Expressions can involve mathematical calculations, logical operators, comparisons and more.

Arthimetic Expression: 2+3+6

String concatenation: “Hello ”+ “World”

Logical expressions: 10>20

1. Expression – Expression is a combination of values, variables, operators and function calls that can be evaluated to produce a resulting value. Expressions are typically used to perform computations and return a value.

Statement – Statement is a complete instruction or action that performs a specific task. Examples of statements include variable assignments, conditional statements, loops, function definitions and many more.

In context of assignment statement spam = 10. It is statement that assigns value to variable spam.

1. After running the code bacon contains 22 because expressions are not inplace in python if we want to change the value of variable we need to reassign the resultant of the expression to the variable again.
2. ‘spam’ + ‘spamspam’ 🡪 ‘spamspamspam’

‘spam’\*3 🡪 ‘spamspamspam’

1. In python variable names must start with a letter or underscore. ‘eggs’ is a valid name because it follows this rule and 100 is invalid because it starts with a digit.
2. int() – This function can be used to convert a value into an integer. It takes a single argument and returns corresponding integer representation of that value.

int(10.5) 🡪 10

float() – Function used to convert a value into floating number. It takes single argument and returns the corresponding floating point representation of that value.

float(’10.245’) 🡪 10.245

str() – This function is used to convert a value into a string. It takes single argument and returns string version of it.

str(42) 🡪 “42”

1. ‘I have eaten’ + 99 + ‘burritos’ this will cause a type error because we are trying to add an integer to string and python cannot convert integer to string explicitly.

To fix this issue the expression should be ‘I have eaten’+’ 99 ‘ + ‘burritos’