**Assignment 1**

**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?**

|  |  |
| --- | --- |
| **String** | **Variable** |
| String is a type of information you would store in a variable | A Variable is a store of information. It’s the name of the temporary memory location where the value is stored in the main memory. |
| A String is usually words, enclosed with "" |  |
| Quotes are there to indicate that the text that they enclose is not code, it is a value |  |

**3. Describe three different data types.**

* **Integers** - Represented by int class. It contains positive or negative whole numbers (without decimal). In Python there is no limit to how long an integer value can be.
* **Float** - Represented by float class. It is a real number with floating point representation. It is specified by a decimal point.
* **String -** Represented by str class. It is a collection of one or more characters put in a single quote, double-quote or triple quote. In python there is no character data type, a character is a string of length one.

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

An expression is a combination of values, variables, operators, and calls to functions. When written in Python prompt, the interpreter evaluates it and displays the result, which is always a value.

Its a sequence of operands and operators, like a + b - 5.

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

* **A statement** is an instruction that the Python interpreter can execute. Eg: assignment statement, if statements. When you type a statement on the command line, Python executes it. The interpreter does not display any results.
* **An expression** is a combination of values, variables, operators, and calls to functions. If you type an expression at the Python prompt, the interpreter evaluates it and displays the result, which is always a value.

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

bacon = 22

bacon + 1

**Ans:** Bacon contains 22

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

'spam' + 'spamspam'

'spam' \* 3

**Ans:** 'spamspamspam'

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

**Ans:** Python doesn’t allow variable name to be number only. That is why 100 is invalid.

A valid variable name must start with a letter or underscore character, cannot start with a number and can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )

Variable names are case-sensitive (age, Age and AGE are three different variables)

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

**Ans:** Integer value:int(), String value: str(), Float value: float()

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

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

**Ans:** Can’t concatenate a string value to an int value. We can convert the int value to string and then try concatenating.

'I have eaten ' + str(99) + ' burritos.'