**Python Basic Assignment**

Assignment\_1

**Q.1**

* Values: 'hello', -87.8
* Expressions: \*, -, /, +

**Q.2**

**String** - A string is a data type used to represent text or a sequence of characters enclosed within single (' '), double (" ") quotes in Python.

Example: "Hola, Jupiter!" or '12345'

**Variable** - A variable is a named storage location in a program that can hold different values. Variables are used to store and manage data.

Example: name = "Cena" or number = 99

**Q.3**

**Integer (int) -** An integer is a whole number, either positive or negative, without any decimal point. It can represent numbers like -3, -2, -1, 0, 1, 2, 3, etc.

Example: x = 10

**String (str) -** A string is a sequence of characters, enclosed in single (' '), double (" ") quotes in Python. It can represent text and is often used for handling words, sentences, or any sequence of characters.

Example: name = "Alice"

**Float (float) -** A float (floating-point number) is a number that has a decimal point or is expressed using scientific notation. It can represent both whole numbers and fractions.

Example: pi = 3.14

**Q.4**

An expression in programming is made up of operands and operators.

Operands are the values or variables involved in an expression. They can be literals (like numbers or strings) or variables that hold values.

Examples of operands:

5 (integer)

Operators - Operators are symbols that perform operations on operands. They dictate how the operands are combined or manipulated.

Examples of operators:

+ (addition)

- (subtraction)

\* (multiplication)

/ (division)

An expression combines operands and operators to create a value. Expressions can be simple or complex, involving multiple operators and operands.

Example Expressions:

5 + 3 (addition expression)

x \* 2 (multiplication expression)

Expressions, when evaluated, produce a value. This value can be of various types depending on the operands and operators involved. The result of evaluating an expression can be assigned to a variable, used in control flow statements, printed, or utilized in other parts of a program. Expressions are fundamental to programming, as they allow you to perform calculations, manipulate data, and make decisions based on conditions.

**Q.5**

Expression – ‘spam = 10’ is a statement that includes an expression (10 is an expression), and the value 10 is assigned to the variable spam.

Statement – ‘spam = 10’ is also a statement. It is an assignment statement that assigns the value 10 to the variable spam. However, the entire line is considered a statement, not just the expression part.

**Q.6**

23

**Q.7**

In both cases the output will be same “spamspamspam”.

**Q.8**

Variable names must follow certain rules:

* Must start with a letter (a-z, A-Z) or an underscore (\_)
* Can be followed by letters, digits (0-9), or underscores
* Cannot be a keyword or reserved word

Hence, eggs is a valid variable name while 100 is not.

**Q.9**

int() function: - For Integer

float() function: - For Float

str() function: - For String

**Q.10**

The expression 'I have eaten ' + 99 + ' burritos.' causes an error because here it was trying to concatenate a string ('I have eaten ') with an integer (99). In Python, concatenation using the + operator works when both operands are of the same type, such as two strings, but it doesn't work directly with different types, like a string and an integer. To fix this, we need to convert the integer 99 to a string before concatenating it. Like:

