

## 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.

\*

"hello"

-87.8

-

/

+

6

Ans - **Values**-hello,-87.8,6

**Expression**-\* , / , + , -

## 2. 2. What is the difference between string and variable?

A string is a data type whereas a variable is a container containing its value.

## 3. Describe three different data types.

In Python, several built-in data types allow you to represent different kinds of data. Here are descriptions of three commonly used data types in Python:

Integer (int):

- The integer data type represents whole numbers without any decimal points.
- Example: x = 5

Float (float):

- The float data type represents decimal numbers or floating-point numbers.
- Example: y = 3.14

String (str):

- The string data type represents sequences of characters. Strings are used to store text or a combination of characters.
- Example: name = "John"

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

An expression is a combination of values, variables, operators, and function calls that can be evaluated to produce a result. Expressions are the building blocks of a programming language and are used to represent computations or operations.

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

Expression:

- An expression is a combination of values, variables, operators, and/or function calls that can be evaluated to produce a single value.
- Expressions are meant to represent computations or operations that yield a result.

- Examples of expressions: `5 + 3`, `x * 2`, `len("hello")`, etc.

Statement:

- A statement is a complete line of code that performs a specific action. It is a complete instruction that can be executed.
- Unlike expressions, statements don't necessarily produce a value. They may involve control flow, variable assignments, function calls, etc.

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

```
bacon = 22
```

```
bacon + 1
```

Ans-if it is like `bacon=bacon+1` then it will increment `bacon` value by 1

It will throw a syntax error

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

```
"spam"*3=spamspamspam
```

```
"spam"+"spamspam"=spamspamspam
```

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

Under the rule of namespace, string can be a variable name but integer(100) can't be a variable name.

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

`int()` Function:

- Converts a value to an integer.
- Example: `int(5.7)` returns 5.

`float()` Function:

- Converts a value to a floating-point number.
- Example: `float(7)` returns 7.0.

`str()` Function:

- Converts a value to a string.
- Example: `str(42)` returns the string '42'.

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

```
"I have eaten" + 99 + " burritos"
```

Integer can't be added with string

To make it work, 99 should be converted to a string.

```
=str(99)
```