1. What are the differences between operators and values in the following?

\* - Python Arithmetic operators (Multiplication)

'hello' -Python String Operator

-87.8 -Python Number Types (Float)

- - Python Arithmetic operators (Subtraction)

/ - Python Arithmetic operators (Division)

+ - Python Arithmetic operators (Addition)

6 - Python Number Types (Integer)

2. What is the difference between string and variable?

Spam -Variable

'spam' -String

**Answer-** Every value in Python has a datatype. String is one among them. While Variables in Python can be declared by any name or even alphabets, it acts as a container to store the values.

3. Describe three different data forms.

**Answer-** There are three different types of data form:-

1. String- String represents a sequence of characters (text) inside double or single quotes.

n="nisha"

2. Int- An integer is a whole number that could hold a zero, positive or negative value.

num=25

3. Float-Float represents real numbers, a data type that is used to define floating decimal points.

num=9.5

4. What makes up an expression? What are the functions of all expressions?

**Answer-** Expressions are representations of value. They are different from statement in the fact that statements do something while expressions are representation of value. For example, any string is also an expression since it represents the value of the string as well.

Python expressions only contain identifiers, literals, and operators.

1. **Identifiers**: Any name that is used to define a class, function, variable module, or object is an identifier.
2. **Literals**: These are language-independent terms in Python and should exist independently in any programming language. In Python, there are the string literals, byte literals, integer literals, floating point literals, and imaginary literals.
3. **Operators**: In Python, operators are special symbols that designate that some sort of computation should be performed. The values that an operator acts on are called operands.

5.In this chapter, assignment statements such as spam = 10 were added. What's the difference between a declaration and an expression?

**Answer-** Expression- An expression statement is limited to calling functions to produce a value.

17+24

Output= 41

Declaration- A declaration consists of pretty much anything we can do in Python: calculating a value, assigning a value, deleting a variable, printing a value, returning from a function, raising an exception, etc.

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

bacon = 22

bacon + 1

**Answer-** bacon will be 22.

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

'spam' + 'spamspam'= 'spamspamspam'

'spam' \* 3 ='spamspamspam'

8. Why is it that eggs is a true variable name but 100 is not?

**Answer-** It is because the variable name should always start with an alphabet or \_, but can’t start with a number. Number can be in between the name like eggs100.

9. Which of the following three functions may be used to convert a value to an integer, a floating-point number, or a string?

**Answer-**

1. Converting a value to an integer

x=”27”

int(x)

Output- 27

1. Converting a value to a floating-point number

x=3

float(x)

Output- 3.0

1. Converting a value to a string

x=33

Str(x)

Output- ‘33’

10. What is the error caused by this expression? What would you do about it?

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

**Answer-** The error is

TypeError: can only concatenate str (not "int") to str.

It’s because we are trying to add integer to string data type. The solution will be to convert this 99 to string and it will get added like below.

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

Output- 'I have eaten 99 burritos.'