

Assignment 1

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

- A. * → This is multiplication operator
- B. 'hello' → This is a string value
- C. -87.8 → This is a decimal value
- D. - → This is subtraction operator
- E. / → This is division operator
- F. + → This is addition operator
- G. 6 → This is an integer value

2. What is the difference between string and variable ?

spam → This is a variable name. any value can be stored in this variable name

'spam' → This is a set of characters enclosed in ' '. This will get stored in some variable. This is a string.

3. Describe three different data forms.

Python has following data forms :

Different Data Forms of Python

Aa Types	☰ Performed By
<u>Numeric Types:</u>	int , float , complex
<u>Sequence Types:</u>	list , tuple , range
<u>Mapping Type:</u>	dict
<u>Set Types:</u>	set , frozenset
<u>Boolean Type:</u>	bool
<u>Binary Types:</u>	bytes , bytearray , memoryview

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

Whenever we combine various variables with operators we form an expression like when we

write $x+(y*(x+3))$ now this is what we call as an expression and it can be assigned to a variable

like this $a = x+(y*(x+3))$.

Function of all expressions is to calculate a single value and put it into the variable to which the whole expression is assigned.

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

As we have seen what an expression is above. In case of declaration we just declare some

variable based on what data type value it will store but as Python is Dynamically Typed language

hence there is no declaration in Python.

When we write something like this `a = x+(y*(x+3))` it means we have initialized our Right Hand

Side Expression to the variable `a`.

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

```
bacon = 22
bacon + 1
```

The above code will print 23 when we run the `bacon + 1` command but inside the variable `bacon` the value will still remain to be 22 only.

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

```
'spam' + 'spamspam' --> This will be equal to spamspamspam
'spam' * 3 --> This will be equal to spamspamspam
```

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

This is because in the rules of naming a variable it is stated that a variable name can not start

with a number and as `100` starts with a number hence it is not a valid variable name.

Rules for Python variables:

- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name 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. Which functions are used to convert a value to an integer, a floating-point number, or a string?

To Integer → int() function is used

To floating-point number → float() is used.

To String → str() is used.

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

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

In above expression the "+" operator performs concatenation but we should keep in mind that

it can only concatenate only str to str and never an int. Here we have 99 as int and it can not be

concatenated with the string 'I have eaten'

```
'I have eaten' + '99' + 'burritos.'  
# We converted our int value of 99 to str value so that it can be concatenated.
```