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 1:

\* = operator

'hello' = value string

-87.8 = value floating

- = operator

/ = operator

+= operator

6 = value int

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

2. What is the difference between string and variable?

Ans 2 :

VARIABLE : Variable is nothing but assigning a name to specific value. value can be integer, float, string. Example : a= 10, b = 5.2, c = “india”.

STRING : String is a sequence of unicode characters( i.e letters, numbers, special characters) which is placed inside single quote or double quote. Example: “ABCD” or “12345” or “2hr2h2i2b2i” or ‘@#$2045’

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

3. Describe three different data types.

Ans 3:

INTEGERS : It contains positive or negative whole number without fraction or decimal point . Example: 0 , 1 , 100 are integer values

FLOAT : It is positive or whole number with decimal point. Example: 0.01, 0.05, 0.10, 1.245 are floating values

STRING : It is a sequence of letters,numbers, special characters. Example: ‘ASDF’ , ‘47592’ , ‘a’ are strings

COMPLEX : It is a combination of real number and imaginary number. Example : 3i+2

LIST: It is array or a sequence data type is used to store the collection of data. Example: [1,2,3,45,’a’,’asd’,100,’200’,’3j+6’]

TUPLE: It is array or a sequence data type is used to store the collection of data. Example: (1,2,3,45,’a’,’asd’,100,’200’,’3j+6’)

SET: It is unordered collection of data types that is iterable, mutable but not having duplicate elements. Example: { 1,2,3,’A’, ‘B’,’a’,’c’, 4256 }

DICTIONARY : It is unordered collection of data types which is having data in pair like Key: Value format. Each Key: Value data separated by comma. Example { ‘a’:10, 11 : 123, 2: [1,2,3], ‘dict’: {‘w’:12,’e’:1542}, ‘set’: {1,2,3,4} }

BOOLEAN : It consist of value either True or False

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

Ans 4:

Expression is combination of operators(i.e +,-,\*,/ ) and operands(i.e. variables ).

Expression gives the final result of combination of operands and operators. Example :

result = a +b -c \*d, here a =1, b= 2, c=3, d=4. then result = 1+2-3\*4 = 0. hence result equal to 0.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

Ans 5:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

bacon = 22

bacon + 1

Ans 6: Variable bacon = 22

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

'spam' + 'spamspam'

'spam' \* 3

Ans 7:

‘spam’ + ‘spamspam’ = ‘spamspamspam’

‘spam’ \* 3 = ‘spamspamspam’

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

Ans 8:

eggs is valid variable name, I can assign any value to variable eggs like eggs =100.

but variable should not start with any integer number. Python Interepreter will display Syntax error during execution of code, hence variable name 100 is invalid.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

Ans 9:

for Integer value : int()

for float value : float()

for string value : str()

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

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

Ans 10 :

Python interpreter gives type error. addition of any number of strings is possible to calculate, but addition of string with integer value is not calculated.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*