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. What is the difference between string and variable?

Ans:

String is an immutable sequence of characters wrapped inside single, double, or triple quotes.

Variable is used to store data. It is just a label given to an object in the memory.

Example:

name = “Laxman”

In above example name is variable and “Laxman” is string .

3. Describe three different data types.

Ans:

1. int: It is an integer data type, which is a number without decimal point. Eg; x = 10

2. float: It is a number with decimal point. Eg; x = 10.5

3. list:  It is an ordered sequence of data(any data type) written using square brackets([]) and commas(,). Eg; x = [‘Ram’, 1, 100, 50.5]

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

Ans:

An expression in Python is a combination of operators, operands, variables and call to functions. The expression produces some value or result.

Eg;

x = a+b/10

x = b//10 + b\*\*2 + a%5 + a/2

In above examples, right hand side of ‘x =’ are expressions.

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

A statement is an instruction that the Python interpreter can execute.

An expression is a combination of values, variables, operators, and calls to functions. An expression need to be evaluated and produces some value or result.

Eg:

spam = 10

ham = 100

total = spam + ham

print(total)

In above example, spam + ham is expression whose evaluated value is 110 and assigned to variable total, hence print(total) will display value 110.

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

bacon = 22

bacon + 1

Ans:

Variable bacon will contain 22.

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

'spam' + 'spamspam'

'spam' \* 3

Ans:

Both will display 'spamspamspam'.

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

Ans:

Because variable should not start with number. In Python, a variable name must start with a letter or the underscore character and can only contain alpha-numeric characters and underscores(A-z, 0-9, and \_ ).

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

Ans:

Integer : int(), eg: print(int(10.50)) displays 10

Floating-point number: float() , eg: print(float(10)) displays 10.0

String: str(), eg: print(‘Ram’+str(100)) displays Ram100

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

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

Ans:

This expression causes error because Python cannot concatenate string 'I have eaten ' with integer 99. To fix it, we should cast integer 99 to string by using str() function, as show below:

'I have eaten ' + str(99) + ' burritos.'