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

\*: Multiplication operator in python which is used to multiply two or more variables.

'hello': It is a string surrounded by single or double quotation mark. Strings are arrays of bytes representing Unicode characters.

-87.8: it is float type datatype.

-: It is subtraction operator, which can perform either unary or binary operation.

/: Division Operator

+: Addition Operator

6: Int data type

In python, Operator performs a various operation such as arithmetic, logical, comparison, assignment operation etc. on the values. The Values are the data where operator perform various operation and store in variables which allocate a specific memory location.

2. What is the difference between string and variable?

Spam: Variable

'spam': It is String

A Variable is parameter that hold data or value that may change which reserves the memory location for the values.

String is list of character in order, enclosed by either single or double quotation marks. It is stored in a variable.

3. Describe three different data forms.

1. Text type

string(str): It is sequence of character data enclosed by either single or double quotation marks. e.g: 'spam'

2.Numeric types:

a.Integer(int):It is positive or negative whole number (without fraction part).In python 3, there is no limit of the intiger about its value range. Eg:10, -20,352452.

b.Floating point: It is real number with fraction part or decimal value.eg:1.23.

c.Complex:It is number with real and imaginary components.eg. 2+ 3i.

3.Sequence types

a. List: It is the ordered collection of different elements of different datatypes, which can be changeable and enclosed in square brackets. e.g. [1, a,” String”]

b. tuple: It is the ordered collection of different elements of different datatypes, which cannot be changeable and enclosed in parentheses. e.g.: (1, a,” String”)

c. Dictionary: It is an unordered collection of data in a key: value pair form. A collection of such pairs is enclosed in curly brackets. For example: {1:"Steve", 2:"Bill", 3:"Ram", 4: "Farha"}

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

Expression is an instruction that combines values and operands which produce the value. In other words, it is the representation of values. Generally, expression contains identifiers (used to define a class, function, variable module or object), literals (datatypes such as integer, floating points, strings, byte etc.) and operators. For e.g.

Sum = 2 + 2

1.Condition Expression:

true\_value if Condition else false\_value

2. Generator expression

( compute(var) for var in iterable )

3. Dictionary comprehension

{ k, v for k in iterable }

4. List comprehension

[ compute(var) for var in iterable ]

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

The values are store in variables which allocate a specific memory location, helps for further computational operation. This process is called declaration.

Expression is an instruction that combines values and operands which produce a single value.

Bacon=22

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

bacon = 22

bacon + 1

Ans.23

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

'spam' + 'spamspam' Ans. spamspamspam

'spam' \* 3 Ans. 'spamspamspam'

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

In python variable name

1.must starts with letter or understand character.

2.cannot start with a number.

3.only contains alpha numeric character and underscore (A-z, 0-9, and \_ )

4.case sensitive

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

We can convert a value to an integer, floating point or a string using below function

int()

float()

str()

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

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

String data type and int data type cannot be concatenate so it produces error.

Here, 99 is int data type and we need to convert to string datatype using str(99).