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.

\* => operator

'hello' => values

-87.8 => value

- => operator

/ => operator

* => operator

6 => value

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2. What is the difference between string and variable?

String is datatype, while variable is container to store info/data(of specific datatype). String used to store info in text format. Variable is named given to place where actual data is stored.

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3. Describe three different data types.

String => sequence of one or more characters. In python eg. ‘this is string’ or ‘’this is string in double quotes’’. To write multiple line use,

s = ‘’’ this is multi line

statement written

in python’’’

Numbers => int (numbers without decimals), float(real number either rational or irrational), complex number(3+4j format)

num =10 #integer

num2 = 5.60 #float

num3 = 88+7j #complex

Boolean => This data type has two values either True or False, related to logical branch of mathematics

age = int(input(‘enter a age’))

canVote = True if age>18 else False

# here canVote is bool variable either True or False

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

Expression made of variables/identifier, constants and operators, that interpreted to produce another value.

Operators – arithmetic, boolean, function call, etc

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

Statements are not evaluated to get output. It is declaration/does something. While expression evaluate and produces result, that may or may not change state of variables.

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

bacon = 22

bacon + 1

=> 22

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

'spam' + 'spamspam' => ‘spamspamspam’

'spam' \* 3 => ‘spamspamspam’

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

In python, variables can only contain alpha-numeric characters and underscores. This is syntax error.

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

Int(), float(), str()

int(4) >>4, float(4) >> 4.0, str(4) >> 4 (‘4’)

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

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

This expression gives TypeError as datatype of 99 is int it can’t be concate with other.

'I have eaten ' + ‘99’ + ' burritos.'