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

**Q1 Ans-** Values are – ‘hello’, -87.8 and 6. Expressions are - \*, -, / and +

2. What is the difference between string and variable?

**Q2 Ans** – Below is the difference in between string and Variable.

**String -** In python string is an inbuilt data type that is mainly used to refer a character or characters, symbol/symbols. string is immutable type in python that means item assignments is directly prohibited in case of string data type.

**Variable –** Variables are something that holds some kind of information that can be later used into program.Variables can hold any types of data ex. Str, int, date, complex, float etc.

At any time, we can change variable values.

3. Describe three different data types.

**Q3 Ans**. In python we do have different kind of data types. Below are the mainly used ones.

1. int – int is an inbuilt data type in python that is used to refer integer type of value or that represents integer values. Ex. 1, 2, 3 4,5 10000
2. float – float data type is basically used to represent decimal values in python. Ex- 1.0, 0.445, 1200.567 etc.
3. str – str data type is used to represent character, group of characters / alphabet/ alphabets or sentences. Ex. ‘Hi’, ’a’, ‘1’, ‘This is FSDS program’

in python we use ‘’ or “” on a value to represents it as string.

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

**Q4 Ans -** expressions are basically made up by the combination of operators, operands, constants, functions that finally generates a value after the execution. Ex- x=2\*2

Or x= y+2\*5-y 🡪 if we assign any value of y to this expression then it will give us a final value after execution.

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

**Q5 Ans** – Here, spam=10 is referring an instruction to IDE that value 10 has been assigned to a variable named spam.

So basically, we can say that statements are something like an instruction that python IDE can execute. There are different types of statements – like Assignment statement (ex- a=5), import statements to load modules (ex- import os) and print statements to print some values.

However, expression is basically made up by the combination of operators, operands, constants, functions that finally generates a value after the execution. Ex- x=2\*2

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

bacon = 22

bacon + 1

**Q6 Ans -**  bacon variable will still have 22 as value because 1 has been added to bacon but it is not assigned back to variable bacon. I.e. inplace assignment has not be done here.

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

'spam' + 'spamspam'

'spam' \* 3

**Q7 Ans –** Both the terms will have same output **- spamspamspam**

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

**Q8 Ans –** In python, a variable name can’t be start with an Integer. Thus 100 as a variable name is invalid. However, eggs is a valid variable name as we can start a variable name with character.

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

**Q9 Ans –** int() – is an inbuilt function that is used to convert a passed value into integer. Similarly float() and str() is sued to convert a passed value into float and string data type simultaneously.

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

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

**Q10 Ans –** In above code we are concatenating an integer value with string values that is not possible in python. Thus, above code will throw an error.

We can fix this issue by cating integer value in string such as 'I have eaten ' + str(99) + ' burritos.' Or 'I have eaten ' + ‘99’+ ' burritos.'

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