FSDS BootCamp 2.0

Assignment 1

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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]

Solution:

Values: 'hello'   -87.8   6

Expressions: *   -   /   +

2. What is the difference between string and variable?

Solution:

1. A string is a literal text string, i.e. 'Hello'
2. A variable is something that stores data (per se) - it can store a string, int, float, class, etc.
3. All strings are variables, but not all variables are strings.

3. Describe three different data types.

Solution:

1. Integer: Stores whole integer values.
   Example: 3, 7, 90
2. Float: Stores number with decimal point.
   Example: 3.15, 101.5
3. Boolean: Represents logical values.
   Example: True, False
4. String: Stores alphanumeric values.
   Example: shruti, 93

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

Solution: An expression is a combination of values and operators. All expressions evaluate (that is, reduce) to a single value.

5. This assignment statements, like spam = 10. What is the difference between an

expression and a statement?

Solution: An expression evaluates to a single value. A statement does not.

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

bacon = 22

bacon + 1

Solution: The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1).

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

'spam' + 'spamspam'

'spam' * 3

Solution: Both expressions evaluate to the string 'spamspamspam'.

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

Solution: Variable names cannot begin with a number.

9. What three functions can be used to get the integer, floating-point number, or string

version of a value?

Solution: The int(), float(), and str() functions will evaluate to the integer, floating-point number, and string versions of the value passed to them.

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

'I have eaten' + 99 + 'burritos'

Solution: The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str(99) + ' burritos.'.