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Solutions to Assignment\_1

**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:

\* : Expression

‘hello’ : value

-87.8 : value

- : Expression

/ : Expression

+ : Expression

6 - value

**2. What is the difference between string and variable?**

A variable is a “place” where you can store any of types of values, but is not in itself a value.

A string is one of many types of those values.

**3. Describe three different data types.**

* **Integers**– This value is represented by int class. It contains positive or negative whole numbers (without fraction or decimal).
* **Float**– This value is represented by float class. It is a real number with floating point representation. It is specified by a decimal point.
* **Complex Numbers** – Complex number is represented by complex class. It is specified as *(real part) + (imaginary part) j*. For example – 4+6j

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

Ans.

Python expression can be defined as any element in our program that **evaluates** **to** **some** **value**

var = "hello world" is a statement that assigns var to the value of the expression "hello world”. Since the code "hello world" is a simple expression, meaning it contains no operations, nothing is actually evaluated, so var is just assigned to "hello world". More complex expressions actually evaluate things, like adding numbers. Using the word expression seems like it is making things more confusing.

Expressions are nothing but values, except they can have operations like addition or subtraction.

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

In general terms, An expression evaluates to a value, whereas A statement does something.

The given statement, spam=10 is doing assignment, but expressions always evaluate to a value.

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

**bacon = 22**

**bacon + 1**

Ans: bacon variable will contain 22 because the addition statement is not assigned back to bacon.

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

**'spam'+'spamspam'**

**'spam'\*3**

Ans: Both will produce- 'spamspamspam'

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

Ans.

The variable name “ egg” satisfies all the rules of python complier but the variable name “100” violates the rule as it is starring with numeric digit. A python variable name cannot start with a number.

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

Ans.

Integer- int()

Floating point – float()

String- str()

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

'I have eaten' + 99 + 'burritos'

Ans:

In the above expression we are trying to concatenate the integer value of 99 in between two string and hence we are getting the error (TypeError).

We can fix it by getting the string value for 99 by enclosing it within str() function and then concatenate in the following way:

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