**Basic Python – Assignment 1**

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**1. In the below elements which of them are values or an expression? e.g.: - values can be integer or string and expressions will be mathematical operators.**

**\*** - Expression – It implicates “ALL”

**'hello'** – It is a string

**-87.8** – It is floating value

**-** - It is a minus operator

**/** - It is a division operator

**+** - It is an addition operator

**6** – It is an integer value

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

- A string is a value which we give in and is given in speech marks. It comprises of anything alphabets, numeric or a combination of both too, until it is in the speech marks, it will be considered as a string. E.g.: “Abhinav”, “Abhinav234”, “1234”, these are all strings.

- A variable is an expression that we give in to assign a value to it. This is holding a value that we assign or wish to assign. E.g.: a = “Abhinav”, here a is a variable. b = 1234, here b is a variable and so on.

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

- There are different data types, namely.

* Boolean (True, False)
* Integer (Numeric values apart from decimals)
* Float (All decimal numeric values)
* String (Everything enclosed in speech marks)
* Double

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

- A combination of operators and values/ operands is an expression. The expressions are meant to process the operation that we have assigned it to work for using operators. For E.g.: a = a\*b; this is an expression, the output of this would be multiplication after assigning values to a and b.

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

- As stated above (spam = 10) this is an assignment statement. So, a statement is when we assign a particular value to the variable and it is fixed. We have created a statement here.

- An expression is a mix of operators and operands, which might look like; spam = 10 + 10 or spam = 10 \* spam – These are expressions, where we have a combination.

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

**bacon = 22**

**bacon + 1**

* 23 will be the output of this, as it will add 1 in the above assignment statement.

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

**'spam' + 'spamspam'**

**'spam' \* 3**

* ‘spamspamspam'
* as both of them are strings and adding string to string can work, similarly in the second expression too, we are multiplying the string 3 times.

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

**-** 100 can not be assigned a literal, that is because it is considered as an integer value by python. Eggs or any alphabet can be considered as a valid variable.

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

- int() for integer, float() for floating point number and str() for string version of a value. This is called typecasting.

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

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

* This will cause a TypeError. We can typecast 99 and use different things to fix this.
* 'I have eaten ' + str(99) + ' burritos.'
* 'I have eaten ' + '99' + ' burritos.'
* "I have eaten {}, burritos".format(99)