**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

2. What is the difference between string and variable?

3. Describe three different data types.

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

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

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

bacon = 22

bacon + 1

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

'spam' + 'spamspam'

'spam' \* 3

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

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

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

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

**ANSWERS**

**1)**

1. \* is a expression
2. 'hello' is a string value
3. -87.8 is a integer value
4. - is a expression
5. / is a expression
6. + Is a expression
7. 6 is a integer value

**2)**

**Difference between string and variable :**

* **String :**

Strings are usually words or alphabets enclosed with quotation marks “ “.

Example : “ hello “

* **Variables :**

Variables are usually numeric values that are used for mathematical operations etc. , unlike string they are not enclosed with any quotation marks.

Eg. 6 , 8.8 , 986.

**3)**

**String -**  a string is a sequence of characters, either as a literal constant or as some kind of variable. Example. “hello”

**Integer-** Integers are whole numbers represented as binary values. Example. 3 ,234 etc.

**Boolean-**  a boolean refers to a value that is either true or false.

**4)**

An expression is a combination of operators that is interpreted to produce some other value.

* **Arithmetic Expressions:**An arithmetic expression is a combination of numeric values, operators, and sometimes parenthesis.. The operators used in these expressions are arithmetic operators like addition, subtraction, etc.

Example : 1+2 , 5-4 , 2\*6 , 10/2 etc

* **Relational Expressions:**In these types of expressions, arithmetic expressions are written on both sides of relational operator (> , < , >= , <=).

Example : 23>12 , 19<45 etc

* **Logical Expressions:**These are kinds of expressions that result in either True or False. It basically specifies one or more conditions. For example, (10 == 9) is a condition if 10 is equal to 9. As we know it is not correct, so it will return False.

Example : 89>12

Output: true

**5)**

* A statement is an instruction that the Python interpreter can execute.
* An expression is a combination of operators and operands that is interpreted to produce some other value.

In this question , spam = 10 in whole is a statement and the (=) used to assign the value is the expression.

**6)**

bacon =22

Bacon + 1

After execution of code answer is 23 , but the variable in bacon remains 22 and there is no change in value for bacon .

**7)**

Both gives the same output spamspamspam

**8)**

Eggs is valid variable name whereas 100 is not because variables cannot start with a numeric digit.

**9)**

**The functions are :**

* Integer – int()
* String – str()
* Floating point number – float()

**10)**

The error in ‘ I have eaten ‘ + 99 +’burritos’ is a string value and integer value cannot be added , to fix this we must convert all values to string , hence the code can be written as ‘I have eaten ‘ + ‘99’ + ‘burritos’, this statement will not be giving errors.