**Assignment No.:- 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.

**Ans:-**

\* :- **Multiplication**

'hello' :- **String**

-87.8 :- **Float**

- :- **Subtraction**

/ :- **Division**

* :- **Addition**

6 :- **Integer**

2. What is the difference between string and variable?

**Ans:- Variables are the symbols that are used to store data in a program, and the strings are the data, so we can use them to fill the variables. For e.g.**

**A=”Hello” (Where A is a variable and “Hello” is a string which store in the variable.)**

3. Describe three different data types.

**Ans:- Three Different types of data types are as follow,**

1. **Integer data type:- Integer data types often represent whole numbers in programming. They are positive or negative whole number with no decimal point. It may denote with “ints”. For e.g. 20, 15,-15,-10, etc.**
2. **Float data type:- Floating-point data type represents fractional numbers with decimals in programming. For e.g. 5.00, 3.55,-4.97, etc.**
3. **String data type:- String data type is a combination of characters that can be either constant or variable. Strings can include both lower and upper case letters, numbers and punctuations.**

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

**Ans:- Expressions made up of a combination of Operators, Constants, and Variables.**

1. **Constant expressions:-These are the expressions that have constant values only. For e.g. X = 15**
2. **Arithmetic Expressions:-an Arithmetic expression is a combination of numeric values, operators, and sometimes parenthesis. The result of this expression is also a numeric value. For e.g. Addition, Subtraction, Multiplication, Division, etc**
3. **Integral Expressions:**- **These are the kind of expressions that produce only integer results.**
4. **Floating Expressions**:- **These are the kind of expressions which produce floating point numbers as results.**
5. **Relational Expressions:- In these types of expressions, arithmetic expressions are written on both sides of relational operator (> , < , >= , <=). Those arithmetic expressions are evaluated first, and then compared as per relational operator and produce a Boolean output in the end.**
6. **Logical Expressions:-** **These are kinds of expressions that result in either True or False. It basically specifies one or more conditions.**
7. **Bitwise Expressions**:- **These are the kind of expressions in which computations are performed at bit level.**

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

**Ans:- An Expression evaluates to a single value and a statement does not.**

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

bacon = 22

bacon + 1

**Ans:- The bacon variable is set to 20. 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

**Ans:- Both expressions evaluate to the string ‘spamspamspam’**

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

**Ans:- Variables cannot starts with a number**

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

**Ans:- The int(), float() and str() functions will evaluate to the integer, floating-point, or string version of value.**

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

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

**Ans:-Because 99 is an integer value and only string can be contracted with the string so correct expression is {I have eaten ‘+ str(99) +’ burritos.}**