**Assignment No. 1**(Python Basic)

**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.**

\* Expression

'hello' Value

-87.8 Value

- Expression

/ Expression

* Expression

6 Value

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

Variables are containers for storing data values. It can store any type of data value. Like integer, float, string, boolean , complex number etc.

String is one of the data type which can be use to fill up a variable.

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

**Integer:** It contains positive or negative whole numbers (without fraction or decimal). In Python there is no limit to how long an integer value can be. For example 5

**Float:**  It is a real number with floating point representation. It is specified by a decimal point. For example 5.5

**String:** A string is a collection of one or more characters put in a single quote, double-quote or triple quote. For example “Python”

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

A combination of operands and operators is called an expression. The expression in Python produces some value or result after being interpreted by the Python interpreter.

An expression may consist of one or more operands, and zero or more operators

An example of expression can be : x = x + 10. In this expression, the first 10 is added to the variable x. After the addition is performed, the result is assigned to the variable x.

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

|  |  |
| --- | --- |
| **Expressions in Python** | **Statements in Python** |
| The expression in python produces some value or result after being interpreted by the python interpreter. | A statement in python is used for creating variable or displaying values |
| A expression in python is evaluated for some results | A statement in python is not evaluated for some results |
| The expression evaluation does not results in any state change | The execution of statement changes the state of the variable |
| An expression is not a statement | A statement can be an expression |
| Example : x=3+6  Output:9 | Example : spam = 10  x=3 |

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

**bacon = 22**

**bacon + 1**

Answer : After running the following code variable bacon contain 22

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

**'spam' + 'spamspam'**

Answer: spamspamspam -Here two strings are concatenated.

**'spam' \* 3**

Answer: spamspamspam - Here ‘spam’ string prints three times

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

In python variable name must start with a letter or the underscore character it can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ ). eggs variable contains alphabets so it’s a valid variable.

In python variable name cannot start with a number. 100 variable name starts with a number so it’s invalid variable

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

int() function is used to get integer version of value

float() function is used to get float version of value

str() function is used to get string version of value

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

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

In python we cannot concatenate string and integer. In the above line 'I have eaten ' and ‘burritos.' are strings. 99 in an integer. To fix this error we can write 99 as a string by placing it in between single or double quotes.

print('I have eaten ' + '99' + ' burritos.')