**Assignment 1**

**Name: Eshant Das**

**Q1. In the below elements which of them are values or an expression? egg: - values can be**

**integer or string and expressions will be mathematical operators.**

\*

‘hello’

-87.8

-

/

+

6

**Answer:**

\* Is an expression

'hello' is a string value

-87.8 is a float value

- is an expression

/ Is an expression

+ is an expression

6 is an integer value

**Q2. What is the difference between string and variable?**

**Answer:**

Variable are basically symbols into which we store values for future computation. It is named memory location and can change depending on the condition and information passed to the program.

For example; x=10

Here x is the variable

String is basically a data type which we can contain alphanumeric data within single quotes or double quotes or even triple quotes.

For example; x='Eshant' y='is happy 10'

The type of data stored in x and y are string data instead of this if we would have done x=10 then it would not be a string data

**Q3. Describe three different data types.**

**Answer:**

Three types of data types can be:

1) Integer data type- With the help of integer data type we are able to store integers such as 10, 20, -453,100 etc.

We are not allowed to store any alphabets or decimal values.

Example x=10

Here x is the variable and 10 is the integer data type

2) Float data type- With the help of float data type we are able to store decimal values such as 10.23,45.34 99.0, -345.34 etc

We are not allowed to store alphabets for float data type

Example x=34.56

Here x is the variable and 34.56 is the float value

3) String data type- With the help of string data type we are allowed to store alphanumeric values within single or double or triple quotes.

We can also store numbers within single quotes like '56'

We can store alphanumeric values such as 'a@1234'

Example; x='Eshat1234@gmail.com'

Here x is the variable and 'Eshant1234@gmail.com' is the string value

**Q4. What is an expression made up of? What do all expressions do?**

**Answer:**

An Expression is made up of operators and operands. Expressions are basically combined and interpreted by the compiler to create a new value.

Example;

a,b=10,20

a+b

In the above example a and b are the operands whereas + is the operator

**Q5. This assignment statements, like spam = 10. What is the difference between an**

**expression and a statement?**

Answer:

spam =10 basically stores the integer value 10 to a variable called as "spam".

Difference between expression and a statement is that expression does a computation to produce a new value or output

Statement is basically a standalone unit of execution with which we would not get any new value as it does not return anything.

**Q6. After running the following code, what does the variable bacon contain?**

**bacon = 22**

**bacon + 1**

**Answer:**

bacon would still contain the value 22 as the incremented value was not stored back to the bacon variable.

**Q7. What should the values of the following two terms be?**

**'spam'+'spamspam'  
'spam'\*3**

**Answer:**

spamspamspam would be the answer for the first code

spamspamspam would be the answer for the second line of the code as well

**Q8. Why is eggs a valid variable name while 100 is invalid?**

**Answer:**

Keeping Variable names has some rules associated with it such as a variable name can never start with a numeric value.

Here eggs has alphabets so it can clearly be a variable but since 100 is starting with a numeric value which is 1 so we cannot make it a variable

**Q9. What three functions can be used to get the integer, floating-point number, or string**

**version of a value?**

**Answer:**

int() is the function for getting an integer value.

float() is the function for getting a floating point number

str() is the function for getting a string version of a value.

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

**‘I have eaten’ + 99 + ‘burritos.’**

**Answer:**

The above expression will result to an error because we cannot concatenate an integer with the other two strings.

To fix the error we can either put 99 inside a single or double quotes (‘99’ or “99”) or we can do an explicit conversion ‘I have eaten’ + str (99) + “burritos”.