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

**ANS: In the given elements values are : ‘hello’,-87.8,6 and expressions are : \*,-,/,+**

2. What is the difference between string and variable?

**ANS: STRING is the group of characters which gives us some information and it is stores in the variable**

**VARIABLE is used to store the information**

**FOR EXAMPLE :**

**s=”hello”**

**Here ‘s’ is the variable and “hello” is the string and here the string “hello” is stored in a variable called as ‘s’**

3. Describe three different data types.

**ANS: There are basically five data types they are :**

* **Numeric**
* **Dictionary**
* **Boolean**
* **Set**
* **Sequence type**

**NUMERIC : we are having integers ,complex ,float these data types are numbers ie integers are the numbers which will not have the decimal points ,complex means the complex numbers ,float datatype is for numbers having decimal points.**

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

**ANS: An expression is a made up of operators and operands that is interpreted to produce some other value .An expression for example a=1+2**

**It is an expression where we are having a one operator ie. + and two operands ie.1 and 2 here in this expression the addition of two numbers is going on .**

**So all the expressions will do some tasks to get some other result.**

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

**ANS: An expression is a made up of operators and operands that is interpreted to produce some other value example a=3\*5 ,but a statement is Instructions written in the source code for execution. As given spam =10 is an assignment statement where the value 10 will be stored in the variable spam**

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

bacon = 22

bacon + 1

**ANS: The value of bacon will be 22 ,since the expression bacon+1 will do 22+1 but the value will not be stored anywhere since the value is not assigned to the variable.**

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

'spam' + 'spamspam'

'spam' \* 3

**Ans:**

1. **spamspamspam**
2. **spamspamspam**

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

**ANS:**

**There are some conditions for creating a variable names they are:**

1. **A variable name must start with a letter or an underscore character (\_)**
2. **A variable name cannot start with a digit**
3. **A variable name can only contain alpha-numeric characters and underscores**
4. **Variable names are case-sensitive (age, Age and AGE are three different variables.**

**So 100 is not a valid variable name.**

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

**Ans:int() , float() , and str( ) are the three functions**

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

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

**Ans:The strings only can be concatenated as 99 is the number it cannot be concatenated so there will be an error . To fix we can typecast 99 to string by using the string function str(99) ie ‘I have eaten’+’99’+’burritos’.**